

13-68

JUL 20 1990

LC-460
RES-3.10

SEE ATTACHED
INFO FROM MEETING
A

Mr. Gerald Zimmerman
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012

Subject: Meeting to Discuss Colorado River Operations (Water Supply)

Dear Mr. Zimmerman:

We are writing to invite you to a meeting at 1 p.m., August 2, 1990, at our Yuma Projects Office in Yuma, Arizona, with the major California users of Colorado River water. With use of Colorado River water in the lower basin limited to 7.5 million acre-feet for 1990, and insufficient water to fully satisfy priorities 4 and 5 as specified in each California water delivery contract with the United States, it is necessary to limit water use under the first three contract priorities to 3.85 million acre-feet during calendar year 1990.

We have recently determined, using provisional records and current projections of water users' estimated diversion requirements, that the 1990 use under the first three priorities will likely exceed 3.85 million acre-feet. In order to make our projections for the year as accurate as possible, we are requesting that all holders of priorities 1, 2, and 3 entitlements furnish us with an updated schedule of deliveries for the remainder of the calendar year. If the updated schedules still indicate a total expected use exceeding 3.85 million acre-feet, some reduction in the priority 3 delivery schedules will be required.

As indicated in our May 4, 1990, letter to the Palo Verde Irrigation District (a copy of which was sent you), we feel that the December 19, 1989, Approval Agreement may provide an acceptable method of determining any necessary reductions in delivery schedules. The purposes of the August 2 meeting at our Yuma Projects Office will be (1) to help us better understand the Approval Agreement, and (2) to assure that all parties concerned have a mutual understanding of how the Conservation Agreement and the Approval Agreement will be implemented and how the water involved will be accounted for. We will also want to discuss this year's water use and the delivery schedules for the remainder of the year. We look forward to the meeting and to agreement on mutually acceptable ways of managing Colorado River water deliveries under the California priority entitlements.

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SRK
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If you have any questions regarding this matter, please contact Mr. Alden Briggs at 702-293-8677.

Sincerely,

JOHN D. BROWN

ACTING FOR

Edward M. Hallenbeck
Regional Director

cc: Mr. Charles Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial CA 92251

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
180 West 14th Avenue
Blythe CA 92225

Mr. Tom Levy
General Manager and Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella CA 92236

bc: Project Manager, Yuma AZ, Attention: YPO-100

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WBR:WMuir;jh:7/19/90:598-75411

CHRONOLOGICAL LIST OF LETTERS REFERRING TO
WATER USE LIMITATIONS FOR 1990

Aug 30, 1989 -- Letter to ag users -- requests 1990 delivery schedule estimates.

Sept 15, 1989 -- Letter to IBWC -- states that only 1.5 million acre-feet (MAF) will be available to Mexico for 1990, and requests proposed monthly delivery schedule.

Sept 29, 1989 -- Secretary's letter for 1990 AOP -- states 7.5 MAF limit for lower basin for 1990.

Oct 18, 1989 -- Letter to MWD -- reiterates the 1990 7.5 MAF limit, and states that California will be allowed to use water beyond their basic apportionment of 4.4 MAF within the 7.5 MAF total use limit.

Jan 24, 1990 -- Letter to MWD -- addresses numerous issues about water use and accounting, again emphasizes the 7.5 MAF limit for 1990, and recognizes that MWD's requested 1990 deliveries may not be fully satisfied.

Feb 16, 1990 -- Letter to California ag users -- states that we would regard '89 ag deliveries in excess of 3.85 MAF as having been delivered under priority 6, reiterates limit of 7.5 MAF for 1990, and raises possibility of our requesting revised delivery schedules should ag projections exceed 3.85 MAF.

May 4, 1990 -- Letter to PVID -- refers to 3.85 MAF ag limit, the potential need for revised delivery schedules, the Conservation Agreement and the Approval Agreement, and suggests the need for a meeting among Reclamation and the parties to the agreements.

May 15, 1990 -- Invitation to June Water Users Conference -- mentions 7.5 MAF limit for lower basin.

May 16, 1990 -- Letter to Indian water users -- sets up a May meeting, and also invites them to June Water Users Conference.

June 1, 1990 -- Letter to Fort Mojave Tribe -- addresses their excess diversions, and asks them not to exceed their California entitlement in 1990.

June 7, 1990 -- Letter to MWD -- addresses various concerns, reiterates the 7.5 MAF limit, and offers a possibility for additional water which would subsequently be repaid.

June 13 & 22, 1990 -- Letter to California water users -- reiterates the 7.5 MAF total use limit, the 3.85 MAF limit for the first three priorities and the potential need for revised delivery schedules, and encloses water conservation information.

July 20, 1990 -- Letter to California water users -- reiterates the 7.5 MAF limit; states likelihood of exceeding the 3.85 MAF limit on the first three priorities and requests updated delivery schedules; and sets up Aug 2 meeting to discuss Conservation and Approval agreements, and delivery schedules for the remainder of 1990.

LC-460

AUG 30 1989

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
180 West 14th Avenue
Blythe CA 92225

Subject: Estimates of Diversions and Returns - Colorado River 1989
(Due Date September 8, 1989) (Water Conservation)

Dear Mr. Davisson:

The Bureau of Reclamation is directed by Part 417 of Title 43, Code of Federal Regulations (43 CFR 417), to consult with you each year regarding water conservation and the use of Colorado River water in your district. As in previous years, we are using this opportunity to request your best estimates of monthly diversion requirements to be used in conjunction with those furnished by other entities to plan river operations for the coming calendar year. However, because of the need for an early determination of Colorado River operations, please send your 1990 estimates, by month, to our office by September 8, 1989. We ask that your delivery estimates be as realistic as possible, to satisfy only those deliveries reasonably required for the beneficial use of Colorado River water pursuant to 43 CFR 417.

The 1990 Annual Operating Plan will reflect the dry condition of the basin and the need for conservation and prudent beneficial use of Colorado River water. In recognition of the probability of refilling vacant reservoir space in subsequent years, requests for water by holders of water delivery contracts, and by others with recognized water rights, are expected to be satisfied during calendar year 1990.

We would like to meet with you to discuss your diversion requirements, water conservation plans, and other related topics. We will be in further contact with you to set a date and time that is mutually convenient. We appreciate your cooperation and again encourage you to promote water conservation with your water users.

Sincerely,

GARY L BRYANT

END
Edward M. Hallenbeck
Regional Director

SEP 15 1989

LC-460

Dr. Narendra N. Gunaji
Commissioner
United States Section
International Boundary and
Water Commission
The Commons, Building C, Suite 310
4171 North Mesa
El Paso TX 79002

Subject: Schedule of Water Delivery to Mexico (Water Delivery Contract)

Dear Dr. Gunaji:

The dry condition of the Colorado River basin and the existing vacant reservoir space will permit only the delivery of 1,500,000 acre-feet to Mexico during calendar year 1990, pursuant to the 1944 Water Treaty (Treaty).

In accordance with the provisions of Minute 242 with Mexico, the United States will deliver up to 140,000 acre-feet of water across the land boundary at San Luis, Sonora, and in the limitrophe section of the Colorado River downstream of Morelos Dam, during calendar year 1990. This water will be used in partial satisfaction of the Treaty obligation.

Please furnish this office any monthly schedules for delivery of this water as may be required under articles 10, 11, and 15, of the Treaty. Any monthly delivery schedule submitted by Mexico must reasonably accommodate drainage pumping requirements from the Yuma Project - Valley Division.

These schedules will be used in conjunction with estimates of beneficial consumptive water needs furnished by users in the United States for programing 1990 operations in the lower Colorado River basin. As in previous years, we

will continue to advise your office regarding Colorado River operations as they proceed. We appreciate your determinations and assistance in planning river operations with respect to Treaty provisions and agreements for the international utilization of Colorado River waters.

Sincerely,

WALTER E. FITE

ACTING FOR

Edward M. Hallenbeck
Regional Director

cc: Mr. Alton L. Goff
Chief, Yuma Office
International Boundary and
Water Commission
P.O. Box 5737
Yuma AZ 85364



THE SECRETARY OF THE INTERIOR
WASHINGTON

September 29, 1989

Honorable George Deukmejian
Governor of California
Sacramento, California 95814

Dear Governor Deukmejian:

On September 6, 1989, representatives of the Colorado River Basin States, the Upper Colorado River Commission, and the Federal agencies involved in Colorado River operations agreed to an annual operating plan (copy enclosed) for the Colorado River reservoirs for water year 1990. The plan of operation reflects uses of the reservoirs for all purposes consistent with the Criteria for Coordinated Long-Range Operation of the Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (Operating Criteria).

Pursuant to required secretarial determinations, Glen Canyon Dam will release the minimum objective of 8,230,000 acre-feet for water year 1990; Hoover Dam releases, including pumping from Lake Mead, will satisfy up to 7,500,000 acre-feet of reasonable beneficial consumptive use by mainstream users in the Lower Basin during calendar year 1990; and 1,500,000 acre-feet of water will be delivered to Mexico during calendar year 1990 in accordance with Article 15 of the 1944 Water Treaty and with Minute No. 242 of the International Boundary and Water Commission.

The 1990 operation plan reflects below average reservoir inflow during 1988 and 1989. However, recognizing the system storage available and the beneficial water needs of the basin states, all requests for Colorado River water by holders of water delivery contracts with the United States, and of other water rights recognized by the decree in Arizona v. California, will be satisfied during the calendar year 1990.

Sincerely,

A handwritten signature in dark ink, which appears to read "Manuel Lujan Jr.", is written over a horizontal line.

Enclosure

cc: Mr. Dennis B. Underwood
Executive Director, Colorado
River Board of California
107 South Broadway, Room 8103
Los Angeles, California 90012

OCT 18 1989

LC-460
RES-3.10

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

Subject: Availability of Colorado River Water (Water Supply)

Dear Mr. Boronkay:

On September 29, 1989, the Secretary of the Interior notified the Governors of the Colorado River Basin States of the availability of up to 7,500,000 acre-feet of water from the Colorado River for beneficial consumptive use in the Lower Basin during calendar year 1990. The 1990 operation plan reflects below average reservoir inflow during 1989 and 1990. However, in recognition of the system storage available, and in consideration of the needs for beneficial water use by the basin states, all requests for Colorado River water by holders of water delivery contracts with the United States, and of other water rights recognized by the decree in Arizona vs. California, will be satisfied during the calendar year 1990.

We hereby acknowledge receipt of your proposed schedule for monthly deliveries of water for calendar year 1990, totaling 1,300,900 acre-feet, which was transmitted to us in your letter dated July 19, 1989, and which will be used in conjunction with estimates furnished by others for programming operations on the Colorado River. This schedule is consistent with the 1990 annual operation plan and with the decree in Arizona vs. California, which will allow California to utilize water in calendar year 1990 in addition to the 4,400,000 acre-feet apportioned to California, as long as the total annual consumptive use by mainstream users in the Lower Basin does not exceed 7,500,000 acre-feet.

Sincerely,

JOHN D. BROWN

Edward M. Hallenbeck
Regional Director

cc: Mr. Dennis B. Underwood
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012-4663

FILE COPY		
DATE	SIGNATURE	CODE
1/19	Briggs	460
1/19	Conway	470
1/19	W. Shumard	FS
	(C. H. Hall)	430
1/23	Neilson	X
1/23	J. A. ...	400
		405

JAN 24 1990

LC-460
WTR-3.10

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

Subject: Availability of Colorado River Water (Water Use)

Dear Mr. Boronkay:

In your letter of January 10, 1990, you expressed concerns that the Bureau of Reclamation (Reclamation) may reduce deliveries requested in your letter of July 19, 1989, before due consideration of a number of actions which may eliminate the need for such reduction.

Please be assured that Reclamation is conscious of the impact that such reduction of diversions could have on those served by The Metropolitan Water District of Southern California (MWD). Reclamation has or will be taking measures to insure that diversions of Colorado River water in calendar year 1990 will not exceed the contractual entitlement of any entity and the amount reasonably required for beneficial consumptive use. In doing so, we shall make every effort to insure that measures taken will not in any way diminish the contractual or other legal rights of any entity to such diversions.

We share your particular concern that consultation with water users take place to determine whether the deliveries to a user are exceeding those reasonably required for beneficial use. Toward this end, we have consulted as we have deemed appropriate, pursuant to Part 417 of Title 43 of the Code of Federal Regulations (Part 417), with contractors for Colorado River water, including Palo Verde Irrigation District and Bard Water District in California. Consultations with the Imperial Irrigation District and the Coachella Valley Water District are scheduled for February 12, 1990.

During our Part 417 consultations, and on numerous other occasions, water users have been made aware of the need for conservation of water and the development of systems to effect the same, as well as the need to promptly report adjustments to their schedules in order to minimize water orders not taken and the delivery of water to Mexico in excess of treaty requirements. Decree accounting records show that deliveries to Mexico in excess of treaty

requirements due to water ordered, but not diverted, by Arizona users were 0 acre-feet in 1986 and 8,713 acre-feet in 1987. Such deliveries occasioned by California users for those years were 17,735 and 19,682 acre-feet, respectively. The performance of contractors in this regard will continue to be periodically reviewed. I wish to emphasize that in the enforcement of water conservation measures and the scheduling of water deliveries, and in seeking to maximize the amount of water available to each and every water agency, Reclamation will be assiduous in protecting the contractual and legal rights of each user by requiring only those measures which are reasonable and prudent.

Additionally, contractors in the Lower Basin States from whom water conservation plans are required pursuant to section 210 of the Reclamation Reform Act of 1982, or by virtue of their water delivery or repayment contracts, have had such plans reviewed and approved. Each required plan has water conservation goals, measures by which these goals may be achieved, and a time schedule for implementation of these measures. Water conservation plans are to be updated and approved at 5-year intervals in accordance with current Reclamation policy. Reclamation has offered technical assistance to be provided for water management and conservation and is working to develop pilot programs to further assist contracting entities to identify and implement cost-effective water conservation measures.

Regarding your concern with the development of contracts for the use and exchange of water under the Lower Colorado River Water Supply Act (Act), the current scheduled date for the award of a construction contract for a well field for water deliveries under the Act is October 1, 1990. Water is scheduled to be pumped from the well field in April 1992. In 1990, Reclamation will continue to negotiate the completion of a water exchange contract with the Imperial Irrigation District and the Coachella Valley Water District. The execution of that contract and an upfront funding agreement with the City of Needles, to advance its mandated costs as set forth in the Act, must be accomplished before construction can commence. We plan to execute these agreements by October 1, 1990. Execution of water delivery contracts with other users is planned to be completed before the operation of the well field.

In your January 10, 1990, letter, you have correctly identified several of the major needs that must be addressed in a system of water use accounting that will accurately determine whether any Lower Basin consumptive use limitation is being exceeded. The accounting of water use in the Lower Basin has to date been on an annual basis, in accordance with the decree of the Supreme Court of March 9, 1964. Reclamation is developing, for use in 1990, a system that will allow accounting of consumptive uses on a monthly basis. The lag time in reporting diversions and return flows will be shortened to the maximum extent possible. Particular attention will be given to more fully utilizing the capabilities of an enhanced telemetry system currently being installed in order to reduce reporting time. Agencies, public and private, that are currently involved in the reporting process will be made aware of the new reporting requirements, and provisions will be made to expedite the return of their data.

Reclamation will also, during 1990, continue the development of the Lower Colorado River Accounting System which will allow, through analysis of satellite imagery, the computation of agricultural and phreatophyte consumptive use of Colorado River water. These computed consumptive use values will be used with diversion data to calculate return flows of those agencies monitored; return flows calculated in this manner will be compared to those return flows estimated by established procedures. Where adjustments in procedure are warranted, they will be submitted to the review of the Lower Basin States before any official change is implemented. We have recently established a decree-accounting task force with the Lower Basin States to facilitate such review.

Further, in relation to issues of water use accounting, a program has been put in place to identify all users of Colorado River water not presently under contract with the United States for the delivery of Colorado River water. Reclamation, in conjunction with representatives of the Lower Basin States, the Bureau of Indian Affairs, and the Geological Survey, has established technical and policy work groups to develop procedures whereby such users may be brought under contract or their diversions terminated. Regulations for doing so will be completed at the beginning of 1992. Among other things, these regulations will define areas along the Colorado River in which any pumping of water will be presumed to be from the Colorado River.

Regarding your concern about unintentional overruns and underruns in diversions, in November of 1988 we provided the principal representatives of the Lower Basin States a draft policy paper addressing this, as well as a number of other issues affecting administration of the lower Colorado River. That paper, in essence, proposed that unintentional overruns and underruns be accounted for by making adjustments in water deliveries in subsequent years. Once we receive concurrence from the state representatives, we plan on distributing the paper to other interested parties for review.

The Annual Operating Plan for Colorado River system reservoirs for 1990 provides for meeting only those calendar year 1990 reasonable beneficial Colorado River mainstream consumptive uses in the Lower Basin up to 7,500,000 acre-feet. Our present water use estimates indicate there may be an insufficient unused apportionment of Colorado River water in Arizona and Nevada to deliver water under the Contract for Delivery of Surplus Flows From the Colorado River (Contract No. 7-07-30-W0171) to MWD or to fully satisfy the entitlement of MWD under the fifth priority of the California Seven Party Agreement of August 18, 1931.

Your proposed schedule for monthly diversions of Colorado River water for calendar year 1990, totaling 1,300,900 acre-feet, which was transmitted to us in your letter dated July 19, 1989, requests beneficial consumptive use of Colorado River water by MWD in excess of that amount apportioned to MWD under the fourth and fifth priorities of the above-mentioned California Seven Party Agreement. Reclamation will, during calendar year 1990, monitor consumptive uses of Colorado River water by holders of water delivery contracts with the United States, and by others holding water rights recognized by

the decree in Arizona v. California. End-of-year consumptive use amounts for these users and the Lower Basin as a whole will be projected periodically during 1990 using regression analysis techniques and the method employed by the Colorado River Board of California. Both of these approaches relate consumptive use to date to historical end-of-year consumptive use. As it becomes possible during the year to more accurately project end-of-year beneficial consumptive use of Colorado River water for the Lower Basin and for MWD, we shall furnish you with these projections.

As total Lower Basin consumptive uses become more apparent during the course of the year, we shall advise you of any changes in your schedule that may be required. We would be pleased to meet with you at your convenience, and suggest that you contact Assistant Regional Director Walt Fite should you desire to schedule a meeting.

Sincerely,

JOHN D. BROWN

ING FOR

Edward M. Hallenbeck
Regional Director

cc: Mr. Richard E. Angelos
Acting Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
180 West 14th Avenue
Blythe CA 92225

Mr. Thomas E. Levy
General Manager and Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella CA 92236

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial CA 92251

Mr. Ron Derma
General Manager
Bard Water District
1473 Ross Road
Winterhaven CA 92283

OFFICIAL FILE COPY

FEB 16 1990

LC-460
RES-3.10

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
189 West 14th Avenue
Blythe CA 92225

Subject: Availability of Colorado River Water (Water Supply)

Dear Mr. Davisson:

On December 29, 1989, we sent you a letter in which we stated that the forecasted consumptive use in 1989 by agencies receiving water under the first three priorities of the California Seven Party Agreement (Agreement) was in excess of 3.85 million acre-feet, and that water used in excess of that amount in 1989 would be delivered under the Agreement's lower-ranked priorities. Your letter dated January 17, 1990, requested an explanation of the reasoning and the rationale for our letter. Also, during a telephone conversation with Mr. Tom Levy of the Coachella Valley Water District (CVWD) on January 16, 1990, we discussed concerns he had with our letter of December 29. We desire now, therefore, to modify that earlier letter and explain our purpose in sending it to you. This letter then, supersedes our letter of December 29 on the subject of availability of Colorado River water.

With the recent increased Lower Basin water use and the 7.5 million acre-feet Lower Basin consumptive use limitation required by the 1990 Annual Operating Plan, we began, with the letter of December 29, apprising those entitled to receive Colorado River water of a process of water-use accounting and forecasting during times when it was probable that all diversion requests would not be fully satisfied. Our intent was to let you be aware of our interpretation of the Agreement under the water-use conditions in 1989, and to make you aware that the 3.85 million acre-feet of the first three priorities under the Agreement was exceeded.

Regarding 1989 Colorado River water deliveries, we shall consider all deliveries to the California agricultural agencies in excess of their entitlements under the first three priorities of the Agreement, excepting water diverted for the aquifer recharge demonstration associated with the Colorado River Excess Water Underground Storage and Recovery Study, Imperial County, to have been supplied under the sixth priority of the Agreement. Approximately 13,800 acre-feet delivered to CVWD, from January 1, 1989, through March 27, 1989, for the aquifer recharge demonstration which is located outside CVWD

boundaries, were supplied pursuant to CVWD's Contract for Delivery of Surplus Flows from the Colorado River, contract No. 7-07-30-W0150.

During 1990, in an effort to insure that the 7.5 million acre-feet limitation referred to above is not exceeded, we shall more closely monitor beneficial consumptive use of Colorado River water throughout the Lower Basin. Our present projections now indicate no water will be available for delivery under priorities six and seven of the Agreement. Should we determine, using the most recent schedule of water users' estimated diversion requirements available to us, that deliveries under the first three priorities of the Agreement will exceed 3.85 million acre-feet, we shall request that all entities party to the Agreement furnish us with a revised schedule for deliveries for the remainder of the calendar year. In the event those revised schedules do not reduce the expected use below this 3.85 million acre-feet limitation, we will require delivery schedule reductions consistent with established priority entitlements. In our endeavor to keep you informed, we shall be advising you in as timely a manner as possible of projected end-of-year consumptive use amounts for each district and the Lower Basin as a whole.

If you have any questions regarding these matters, please contact Mr. Alden Briggs at 702-293-8677.

Sincerely,

WALTER E. FITE

Edward M. Hallenbeck
Regional Director

cc: Mr. Tom Levy Mr. Richard E. Angelos
General Manager and Chief Engineer Acting Executive Director
Coachella Valley Water District Colorado River Board of California
P.O. Box 1058 107 South Broadway, Room 8103
Coachella CA 92236 Los Angeles CA 90012

Mr. Ron Derma
General Manager
Bard Water District
1473 Ross Road
Winterhaven CA 92283

Mr. Charles Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial CA 92251

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

MAY 4 1990

LC-460
Res-3.10

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
189 West 14th Avenue
Blythe CA 92225

Subject: Availability of Colorado River Water (Water Supply)

This letter is in response to your February 22, 1990, letter to us, wherein you raised questions about our February 16, 1990, letter to you and our January 24, 1990, letter to The Metropolitan Water District of Southern California (MWD).

First, we want to assure you that we recognize Palo Verde Irrigation District's (PVID) priorities under the California Seven Party Agreement, as well as the priorities of the other parties to that agreement.

As you point out, our February 16 letter stated that we would ask for revised delivery schedules if it appears that the 1990 water use under the first three priorities will exceed 3.85 million acre-feet. Our basis for such a request is that more accurate data on crops and planted acreages should be available and it should therefore be possible to make more accurate estimates of delivery requirements reasonably required for beneficial consumptive use. We did not mean to imply that a request for a revised schedule would necessarily be a request for a reduced schedule. Rather, it would be a request for a more accurate schedule, that would serve as a basis to project total use of the agricultural entities in California. Naturally, it would be our hope that the revised schedules would fall within the 3.85 million acre-feet limitation. However, if the total of the revised schedules exceeded 3.85 million acre-feet, then we would be obliged to require reduced delivery schedules in accordance with established priorities.

You also raised the issue of unintentional "underruns" and "overruns" of scheduled deliveries, and how they will be treated in the policy presently being developed for future operation of the Colorado River. This issue was mentioned briefly in our January 24 letter to MWD, a copy of which you received. The details of such adjustments are subject to further evaluation with lower Colorado River State representatives and water users, including consideration of such factors as impacts on future water supplies and the needs of water users. The draft policy regarding this and other issues is presently being reviewed by the Lower Basin States, and after their response it will be presented to other interested parties for review.

In our decree accounting to date, we have assumed that the water pumped from wells on PVID's mesa lands is not Colorado River water because the wells are outside the river floodplain. However, if ongoing lower Colorado River basin studies to define the extent of the stream-aquifer system indicate that wells are being recharged from Colorado River water, then well water pumped will be accounted for as Colorado River water use in the future.

In our letter of January 17, 1989, to the Imperial Irrigation District (IID) and MWD (with a copy to you), we indicated our willingness to facilitate the implementation of the conservation agreement between those agencies; we also stated that if revised operation procedures are required because of the conservation agreement, we would develop draft procedures for review by California contractors for Colorado River water and the Colorado River Board of California (CRBC). More recently, the December 19, 1989, approval agreement among PVID, IID, MWD, and Coachella Valley Water District (CVWD) was executed. We have reviewed the approval agreement and we feel it provides a reasonable method to effect reductions in scheduled deliveries should that become necessary because of the 3.85 million acre-feet limitation.

In order to help us determine whether our operational procedures may need modification, we would like to have a joint meeting with PVID, IID, CVWD, MWD, and CRBC. The purposes of the meeting would be to help us better understand the details of the approval agreement, and to assure that all parties concerned have a mutual understanding of how the conservation agreement and the approval agreement will be implemented and how the water involved will be accounted for. We will be contacting you and the other entities to establish a mutually acceptable time and place for the meeting.

Sincerely,

WALTER E. FITE

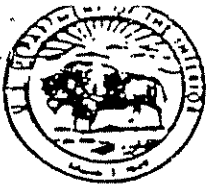
FOR Edward M. Hallenbeck
Regional Director

cc: Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012

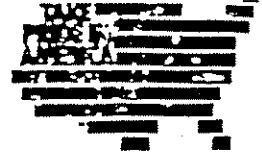
Mr. Thomas Levy
General Manager and Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella CA 92236

Mr. Charles Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial CA 92251

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054



United States Department of the Interior



BUREAU OF RECLAMATION
LOWER COLORADO REGIONAL OFFICE
P.O. BOX 427
BOULDER CITY, NEVADA 89005
MAY 15 1990

IN REPLY
REFER TO:

LC-400
ADM-10.00

Mr. Thomas E. Levy
General Manager-Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella CA 92236

Subject: Lower Colorado River Water Conference (Conference)

Dear Mr. Levy:

As you are probably aware, operation of the Colorado River reached a milestone last year when, for the first time, total consumptive use of water in the lower basin reached 7.5 million acre-feet. This year, for the first time, requests for diversion and associated consumptive use exceeded the 7.5 million acre-feet allocated for use in the lower basin. As a result, we are beginning a new era in Colorado River operations; an era that will require us to monitor water use more closely to ensure that the lower basin does not exceed its basic apportionment under the 1964 Supreme Court Decree. It is our desire to establish a cooperative environment with all users of Colorado River water so that we can jointly work together to efficiently manage our limited water supply. To this end, the Lower Colorado Region of the Bureau of Reclamation is sponsoring a water users' conference, and is cordially extending an invitation to you and your staff. The theme of the conference is: Managing the Lower Colorado River in an Era of Limits.

We have scheduled the conference for June 7 and 8, 1990, at the Flamingo Hilton Hotel in Las Vegas, Nevada. A block of rooms has been reserved for conference attendees at a special rate of \$60 per night. Reservations can be made by calling the Flamingo Hilton Reservations Department at 702-733-3111 or toll free at 800-732-2111. Be sure to identify yourself as a Bureau of Reclamation/Water Users' Workshop attendee, in order to take advantage of the special rate. We are also planning a no-host reception for the evening of June 7, as well as having refreshments served during the conference breaks. In order to defray the cost of refreshments, we are asking each conference attendee pay a \$10 registration fee. A registration booth will be set up outside the conference room on the morning of June 7. In addition, we would appreciate an estimate of the number of people attending the conference from your organization. Please write this office, Attention LC-400, with your estimate, or call Ms. Pauline Moore at 702-293-8415.

We are enclosing a copy of the conference agenda for your information. The agenda is intended to inform lower Colorado River basin water users of many of the legal and policy issues affecting river operations as we enter this new Era of Limits. We hope the conference will also help establish a dialogue that will allow all of us to find ways of using Colorado River water more efficiently.

We look forward to seeing you at the conference.

Sincerely,

EDWARD M. HALLENBECK

Edward M. Hallenbeck
Regional Director

Enclosure

MAY 16 1990

LC-400
RES-3.10

Ms. Lorraine E. White
President
Quechan Indian Tribe
P.O. Box 1352
Yuma AZ 85366-9352

Subject: Meeting to Discuss Colorado River Operations (Water Supply)

Dear Ms. White:

As you are probably aware, operation of the Colorado River reached a milestone last year when, for the first time, total consumptive use of water in the lower Colorado River basin reached 7.5 million acre-feet. This year, for the first time, requests for water exceeded the 7.5 million acre-feet apportioned for use in the lower basin. As a result, we are beginning a new era in Colorado River Operations; an era that will require us to monitor water use more closely to ensure that the lower basin does not exceed its basic apportionment under the 1964 Supreme Court Decree. It is our desire to operate the river in this new era in a cooperative spirit with water users. To this end, we have scheduled a meeting on May 22, 1990, with you as well as representatives of the other Indian tribes utilizing Colorado River water in the lower basin. We have also invited representatives of the Bureau of Indian Affairs. The meeting is intended to provide us an opportunity to brief you on current river operations and other Reclamation activities associated with administration of the river. We also hope the meeting will help us open a dialogue that will give us a better understanding of any concerns you may have. An agenda for the meeting is enclosed for your information.

As discussed with Mr. Bob Johnson of my staff, the meeting will be held at our office in Yuma, located at 7301 Calle Aqua Salada Street, in room 157. We have scheduled the meeting to begin at 10 a.m. Please contact Mr. Stu Hirai in our Yuma office at 602-783-8293, if you have questions about the meeting.

We would also like to extend to you an invitation to the Lower Colorado River Basin Water Users Conference on June 7 and 8, 1990. The theme of the conference is: Managing the Colorado River in an Era of Limits. We are also enclosing a copy of the conference agenda for your information.

We are holding the conference at the Flamingo Hilton Hotel in Las Vegas, Nevada. A block of rooms has been reserved for conference attendees at a special rate of \$60 per night. Reservations can be made by calling the Flamingo Hilton Reservations Department at 702-733-3111 or toll free at 800-732-2111. Be sure to identify yourself as a Bureau of Reclamation/Water Users Workshop attendee in order to take advantage of the special rate. We are also planning a no-host reception for the evening of June 7, as well as having refreshments served during the conference breaks. In order to defray the cost of refreshments, we are asking each conference attendee pay a \$10 registration fee. A registration booth will be set up outside the conference room on the morning of June 7. In addition, we would appreciate an estimate of the number of people attending the conference from your organization. Please write this office, Attention LC-400, with your estimate, or call Ms. Pauline Moore at 702-293-8415.

We look forward to seeing you at the conference.

Sincerely,

FOR ROBERT W. JOHNSON

Edward M. Hallenbeck
Regional Director

Enclosures 2

Identical letters to Colorado River Indian Tribes on attached list.

cc: Mr. Bill Pyott	Area Director
Superintendent	Bureau of Indian Affairs
Fort Yuma Agency	Attention: Ms. Susanne Leckband
Bureau of Indian Affairs	P.O. Box 10
P.O. Box 1591	Phoenix AZ 85001
Yuma AZ 85366-9591	

Mr. Bud Moran
Superintendent
Colorado River Agency
Bureau of Indian Affairs
Route 1, Box 9C
Parker AZ 85344

Ms. Christine Walker
Tribal Chairperson
Chemehuevi Tribe
Attention: Ms. Pat Mardif
P.O. Box 1976
Chemehuevi Valley CA 92363

Ms. Nora Garcia
Tribal Chairperson
Fort Mojave Indian Tribe
500 Marriman Avenue
Needles CA 92363

Mr. Dan Eddy
Tribal Chairman
Colorado River Indian Tribe
Route 1, Box 23B
Parker AZ 85344

Mr. Fred Miller
Tribal Chairman
Cocopah Indian Tribe
Bin G
Somerton AZ 85350

JUN 1 1990

LC-460
WTR-3.10

Ms. Nora Garcia
Chairperson
Fort Mojave Tribal Council
P.O. Box 888
Needles CA 93263

Subject: Overdiversion of Colorado River Water (Water Use)

Dear Ms. Garcia: ..

We are writing to apprise you of a situation which needs your attention, the excess diversion of Colorado River water to lands of the Fort Mojave Indian Reservation (Reservation) which are situated in California.

Under the terms of the Colorado River Compact of 1922, the Boulder Canyon Project Act of 1928, and the 1964 Supreme Court Decree in Arizona v. California, the lower Colorado River basin states of Arizona, California, and Nevada received a basic apportionment of Colorado River water of 7.5 million acre-feet per year for beneficial consumptive use. California's share of that basic apportionment is limited to 4.4 million acre-feet annually. The 1979 Supplemental Decree of the Supreme Court further defined entitlements to Colorado River water within each state. Under that supplemental decree, the California portion of the Reservation is entitled to an annual water diversion of either 13,698 acre-feet or the amount required to properly irrigate 2,119 acres, whichever amount is less. Whatever Colorado River water the Reservation uses in California is charged to California's apportionment. According to the decree, use of Colorado River water also includes water pumped from wells which draw water from the river.

The records of diversion and use of Colorado River water over the past several years show the following diversions to Reservation lands in California:

<u>Year</u>	<u>Diversion (acre-feet)</u>
1981	15,448
1982	20,760
1983	22,352
1984	20,760
1985	16,920
1986	20,276
1987	19,574 (Provisional)

As the record shows, diversions to the Reservation's California lands have consistently exceeded the amount of water to which those lands are entitled. In the past, this has not caused any serious problems, because total demand for water from the river was less than the supply available. However, last year, for the first time, water use in the lower basin reached the basic apportionment of 7.5 million acre-feet. This year the requests for water are about 7.9 million acre-feet, or about 400,000 acre-feet greater than the basic apportionment. This situation has developed partly because Arizona's water use has been increasing and is nearing full use of that state's apportionment. Nevada's use is also increasing, and California has for many years requested and used the full 4.4 million acre-feet of its basic apportionment. Therefore, we expect that in the future, the lower basin's demands will exceed the supply except for occasional wet years when the reservoirs are full.

If a water user in the Lower Colorado River Basin diverts more Colorado River water than that user's entitlement allows, it will reduce the amount available to the holders of the most junior water rights receiving water. As the administrator of the waters of the Colorado River, the Bureau of Reclamation is charged with the duty to account for all use of the river's water so that the legitimate entitlements of all users can be protected. In this light, we are obliged to inform you that Colorado River diversions to Reservation lands in California for 1990 must not exceed the amount stipulated by the Supreme Court in 1979. It is important that all water users conserve water, estimate their delivery schedule requirements as accurately as possible, and insure that they do not use more than their entitlement allows.

We would be happy to work with you in exploring methods of water conservation and increasing efficiency of use in order to help the Reservation realize the most benefit possible from its Colorado River entitlement.

Sincerely,

WALTER E. FITE

~~LINE FOR~~ Edward M. Hallenbeck
Regional Director

bc: Mr. Ernest Moran
Superintendent
Colorado River Agency
Bureau of Indian Affairs
Route 1, Box 9-C
Parker AZ 85344

Phoenix Area Director
Bureau of Indian Affairs
P.O. Box 10
Phoenix AZ 85001

JUN 07 1990

LC-460
WTR-3.10

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

Subject: Availability of Colorado River Water (Water Use)

Dear Mr. Boronkay:

This letter, in further response to your letter of March 15, 1990, addresses the specific concerns expressed in your letter regarding water ordered but not diverted, noncontract use of water, overdiversions by the Fort Mojave Indian Reservation (Reservation), operational concerns, and timely accounting of water use.

Water Ordered But Not Diverted

We are concerned about this issue and are striving to reduce the amount of water ordered but not diverted by water users. We are developing forecasting tools which will assist us, the irrigation districts, and the individual farmers in this matter. However, some regulatory waste will still occur. As you are aware, it takes approximately 3 days for water to arrive at Imperial Dam once it has been released from Parker Dam. For many of the water users, it takes an additional 1 to 2 days for water to be delivered at their turnout. This means that much of the water must be ordered 4 or 5 days in advance of when it will be turned into the fields. Because of weather changes that can occur during this time, such as unanticipated rain, irrigation demand can reduce after the water is ordered but before it is diverted. When available, space in Senator Wash Reservoir is used to store some of the resulting undiverted water, but, because of limited pumping capacity, ability to avert all regulatory waste is limited.

Noncontract Use of Water

Any use of water which is accounted for must be charged against the entitlement of the state in which the use occurs. We will be accounting for such uses in 1990 in the same fashion as in the past. We will continue our efforts to eliminate the unauthorized diversions as

expeditiously as possible. Of the diverters who have been identified as making unauthorized diversions of Colorado River water, some have the potential of receiving a contract within a short time authorizing such diversions. These diverters will be allowed to continue such diversions. Those diverters who have been identified as making unauthorized diversions, which have no prospect of being validated by a future contract, will be notified that they are to cease the diversion of Colorado River water. We recognize the authority of the Secretary of the Interior (Secretary), under the Arizona v. California decree and the Boulder Canyon Project Act, to force such diverters to cease their diversions. However, as you can understand, the Bureau of Reclamation (Reclamation) cannot resort to self-help measures to accomplish that result. Rather, Reclamation will likely have to engage in litigation against the diverters who are notified to cease their diversion and fail to do so, prove the hydrological connection, and seek injunctive relief. We will not be able to engage in litigation until the regulations we have discussed with you are in place. Although this approach may delay that elimination for a year or two, we feel that it is the more prudent and responsible way to proceed, particularly in view of the relatively small amounts of the unauthorized diversions.

A major problem which has hindered our efforts regarding elimination of unauthorized diversions is the lack of legal enforcement authority and the lack of authority to ban the development of additional unauthorized diversions. The states of Arizona and Nevada have indicated a willingness and ability to develop regulations under existing authority or to attempt to enact laws which would enable the appropriate state regulatory agency to prohibit the drilling of wells in areas where they would be pumping Colorado River water, unless the owner of the well has a contract with the Secretary. That is one of the purposes of establishing the areas of presumed Colorado River water use discussed in our earlier correspondence. It is our understanding that similar regulations do not exist under California law. Without such regulatory controls in place, any effort to effectively control unauthorized diversions in California will be mostly futile. Assistance from The Metropolitan Water District of Southern California (Metropolitan) in the establishment of such controls by California would be very much appreciated.

You also noted concern about our delineation of the stream-aquifer system within which pumping of water will be presumed to be from the Colorado River. Specifically, your concern related to using presumptions rather than determinations made through engineering studies. We believe your concern is based on a misunderstanding of the brief explanation provided in our January 24, 1990, letter. The map and boundaries which will delineate areas of Colorado River water use will, in fact, be based on engineering and geotechnical studies, and will serve as a basis for our presumption about the use of ground water in those areas. Our due process guidelines will state our presumption and, therefore, will place the burden of proof on individual noncontract diverters to clearly provide evidence that would show that the water is not Colorado River water.

Past Overdiversions by Fort Mojave Indian Reservation

Much of the water diverted by the Reservation is used to irrigate lands which were included in the Wood and Hay Preserve awarded to the Fort Mojave Indian Tribe by Executive Order of September 18, 1890. As you are aware, this matter and other related issues are presently before the Supreme Court, which has reopened the decree in Arizona v. California and appointed a Special Master to recommend a resolution of these issues. It is true that the California portion of the Reservation has made diversions in excess of its entitlement in recent years. We are currently determining what measures we can take to insure that such excess diversions are not made in 1990.

Operational Concerns

Review comments are expected presently from the three lower basin states regarding the draft policy paper for administration of the lower Colorado River. When we receive them all, we will expedite distribution of the draft policy to you and other interested parties for review and comment.

Timely Accounting of Water Use

Our January 24, 1990, letter to you stated that two systems for water-use accounting are being developed. The first, allowing for accounting of consumptive uses on a monthly basis, utilizes established procedures and will be operational for use in 1990. During 1990, work will continue on the second system, Lower Colorado River Accounting System (LCRAS), which will use satellite imagery to compute agricultural and phreatophyte consumptive use. The use of the first system is not dependent on LCRAS. Our monthly accounting of water use will be done with available operational data. These data, although not certified "Final," are sufficiently good for both accounting and forecasting purposes. It is our intent to begin the reporting of consumptive uses to date and the forecasting of end-of-year consumptive uses about July 15, 1990. We will insure that actions to limit diversions will not cause total lower basin consumptive use for the year to be less than 7.5 million acre-feet. However, if Metropolitan could provide assurance that any resulting overruns on their part would be made up by subsequent-year reductions, we would consider operating with greater risk on the side of exceeding the 7.5 million acre-feet limit.

We appreciate Metropolitan's concern about Colorado River water use, and are aware of this year's water shortages from southern California's other major sources. Because of the large amounts of storage in the Colorado River system, we believe that it may be possible to provide Metropolitan temporary supplies to offset shortages caused by the drought. To the extent the temporary supplies caused the lower basin to exceed the 7.5 million acre-foot limitation imposed by the 1990 operating plan, offsetting water use reductions by Colorado River water users in California would be necessary. We understand that some of the agricultural users in California may be willing to consider such offsetting reductions

provided that Metropolitan pay a reasonable fee to compensate farmers for reducing irrigated acreage. Such reductions could be implemented this year or, more likely, next year when more complete information is available on the amount of water actually used. Of course, we would want to consult with the basin states before implementing such a proposal, but believe they would accept such a proposal if reasonable assurances were made by Metropolitan that offsetting reductions would in fact occur. If such a proposal is of interest, we would be willing to work with all the parties involved to make it work.

We would be pleased to meet with you at your convenience to discuss the above or other matters.

Sincerely,

WALTER E. FITE

ACTING FOR Edward M. Hallenbeck
Regional Director

cc: Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012

JUNE 17 1990

LC-460
WTR-3.10

CERTIFIED MAIL- RETURN RECEIPT REQUESTED

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
180 West 14th Avenue
Blythe CA 92225

Subject: Estimated Monthly Diversion From the Colorado River for Calendar Year 1990
(Water Use)

Dear Mr. Davisson:

Pursuant to the provisions of Part 417 of Title 43 of the Code of Federal Regulations, as revised, we are sending this letter to inform you of the recommendations and determinations of this office regarding your district's proposed schedule of diversions and beneficial use of Colorado River water during calendar year 1990.

The Annual Operating Plan for Colorado River System Reservoirs for 1990 provides for meeting only those calendar year 1990 reasonable beneficial Colorado River mainstream consumptive uses in the lower basin which do not exceed 7.5 million acre-feet. It appears, according to our present estimates, that in order to adhere to the 7.5 million acre-foot limitation, reasonable beneficial consumptive use by those being supplied Colorado River water under the first three priorities of the California Seven Party Agreement (Agreement) of August 18, 1931, will be limited to 3.85 million acre-feet during calendar year 1990.

This office will, during calendar year 1990, monitor consumptive uses of Colorado River water by holders of water delivery contracts with the United States and by others holding water rights recognized by the decree in Arizona v. California. As it becomes possible during the course of the year to more accurately project end-of-year beneficial consumptive use of Colorado River water for the lower basin and for your district, we shall furnish you with the projections we develop. Should we determine, using the most recent schedule of water users' estimated diversion requirements available to us, that deliveries under the first three priorities of the Agreement will exceed 3.85 million acre-feet, we shall request that all parties to the Agreement furnish us with a revised schedule for deliveries for the remainder of the calendar year. In the event revised schedules do not indicate a reduction of the expected use below this 3.85 million acre-foot limitation, we shall require delivery schedule reductions consistent with established priority entitlements.

On the basis of the meeting with you and others of your staff on December 11, 1989, and the estimates you furnished in your letter of September 5, 1989, we find your 1990 proposed diversion schedule to be presently satisfactory. We thank you for its timely submittal.

Further, we are enclosing 200 copies of "A New Era in Colorado River Water Management," Bulletin No. 1 (Bulletin). We have developed this information Bulletin with the hope that it will raise the awareness of all Colorado River water users of the need for improved management of a limited supply of water. We are asking each irrigation district to assist us in distributing the Bulletin by sending a copy to each water user. We plan to prepare a series of these bulletins for similar distribution throughout the year and will be sending these to you as they are completed. More copies of the Bulletin may be obtained by contacting Mr. Julian Rhinehart, our Public Affairs Officer, at 702-294-8420. We appreciate your assistance in distributing the Bulletin.

In view of the water supply situation outlined above, we would appreciate receiving any modifications to your district's diversion schedule for the delivery of Colorado River water during this calendar year as soon as possible.

If you have any questions regarding this matter, please contact Mr. Alden Briggs at 702-293-8677.

Sincerely,

Edward M. Hallenbeck
Regional Director

Enclosure (200)

cc: Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012
(w/o cy encl)

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

LC-460
RES-3.10

JUL 20 1990

Mr. Tom Levy
General Manager and Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella CA 92236

Subject: Estimated Monthly Diversion From the Colorado River for Calendar Year 1990
(Water Use)

Dear Mr. Levy:

We are writing in further reference to our letters of February 16 and June 22, 1990, regarding your district's proposed schedule of diversions and beneficial use of Colorado River water during calendar year 1990.

With use of Colorado River water in the lower basin limited to 7.5 million acre-feet for 1990, and insufficient water to fully satisfy priorities 4 and 5 as specified in each California water delivery contract with the United States, it is necessary to limit water use under the first three contract priorities to 3.85 million acre-feet during calendar year 1990.

We have recently determined, using provisional records and current projections of water users' estimated diversion requirements, that the 1990 use under the first three priorities will likely exceed 3.85 million acre-feet. In order to make our projections for the year as accurate as possible, we are requesting that all holders of priorities 1, 2, and 3 entitlements furnish us with an updated schedule of deliveries for the remainder of the calendar year. If the updated schedules still indicate a total expected use exceeding 3.85 million acre-feet, some reduction in the priority 3 delivery schedules will be required.

As indicated in our May 4, 1990, letter to the Palo Verde Irrigation District (a copy of which was sent you), we feel that the December 19, 1989, Approval Agreement may provide an acceptable method of determining any necessary reductions in delivery schedules. We will hold a meeting at our Yuma Projects Office on August 2, 1990, at 1 p.m., with the major California water users. The purposes of the meeting will be (1) to help us better understand the Approval Agreement, and (2) to assure that all parties concerned have a mutual understanding of how the Conservation Agreement and the Approval Agreement will be implemented and how the water involved will be accounted for. We will also want to discuss

this year's water use and the delivery schedules for the remainder of the year. We look forward to the meeting and to agreement on mutually acceptable ways of managing Colorado River water deliveries under the California priority entitlements.

If you have any questions regarding this matter, please contact Mr. Alden Briggs at 702-293-8677.

Sincerely,

JOHN D. BROWN

NG FOR Edward M. Hallenbeck
Regional Director

cc: Mr. Gerald Zimmerman
Executive Director
Colorado River Board of California
107 South Broadway, Room 8103
Los Angeles CA 90012

Mr. Charles Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial CA 92251

Mr. Carl Boronkay
General Manager
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles CA 90054

Mr. Gerald M. Davisson
Manager
Palo Verde Irrigation District
180 West 14th Avenue
Blythe CA 92225

OPTION NUMBER 2

DISTRIBUTION OF REDUCTION NECESSARY (1990) TO REMAIN
WITHIN 3.85 MAF ENTITLEMENT - BASED ON HISTORICAL
DISTRIBUTION OF CONSUMPTIVE USE (85-89)

PVID $0.1213 \times 65000 = 7,900$

RES. DIV. $0.0144 \times 65000 = 940$

IID $0.7711 \times 65000 = \underline{50,000}$

CVWD $0.0931 \times 65000 = 6,100$

OPTION NUMBER 3(a)

DISTRIBUTION OF 3.85 MAF ENTITLEMENT BASED ON
HISTORICAL DISTRIBUTION OF CONSUMPTIVE USE

PVID $0.1213 \times 3,850,000 = 467,000$

RES. DIV. $0.0144 \times 3,850,000 = 55,000$

IID $0.7711 \times 3,850,000 = 2,970,000$

CVWD $0.0931 \times 3,850,000 = 358,000$

OPTION NUMBER 3(b)

DISTRIBUTION WHERE ONE OR MORE USER
REDUCTIONS NOT REQUIRED

	AMT. AVAILABLE UNDER 3(A)	PROJECTED END OF YEAR USE	REDUCTION REQUIRED
PVID	467,000	450,000	0
RES.DIV:	55,000	63,000	7,700
IID	2,970,000	3,033,000	48,100
CVWD	358,000	369,000	9,200
		TOTAL	65,000

Handwritten notes:
- Above PVID: 467,000 - 450,000 = 17,000
- Next to RES.DIV: 63,000 - 27,900 = 35,100
- Above IID: 3,033,000 - 2,984,900 = 48,100
- Above CVWD: 369,000 - 360,000 = 9,000
- Above TOTAL: 17,000 + 35,100 + 48,100 + 9,000 = 109,200

RES. DIV.	1985	TOTAL '85	% USE OF	1986	TOTAL '86	% USE OF	1987	TOTAL '87	% USE OF	1988	TOTAL '88	% USE OF	1989	TOTAL '89	% USE OF	AVERAGE	CONS. US	% OF
IID	46208	1.33	40846	1.18	43261	1.44	61069	1.62	63990	1.64	63990	1.64	63990	1.64	63990	51075	2716942	1.44
COACH	2685837	77.49	2671490	77.31	2269550	75.54	2948148	78.00	3009684	77.22	3009684	77.22	3009684	77.22	3009684	2716942	327666	77.11
PVID	337002	9.72	338769	9.80	271423	9.03	331714	8.78	359422	9.22	359422	9.22	359422	9.22	359422	424961	9.31	9.31
	396940	11.45	404550	11.71	420136	13.98	438637	11.61	464542	11.92	464542	11.92	464542	11.92	464542	3520644	12.13	12.13
TOTAL	3465987	3455655	3004370	3779568	3897638													

DIVERSIONS

RES. DIV.	1985	EST	ACT	1986	EST	ACT	1987	EST	ACT	1988	EST	ACT	1989	EST	ACT
IID	76189	75495	74518	66000	76131	62600	90552	2700000	3011957	2800000	3094096	2800000	337000	369502	328000
COACH	2717913	2700000	2702528	2700000	2310429	2700000	3011957	2700000	3011957	2800000	3094096	2800000	337000	369502	328000
PVID	341040	385000	342665	352000	276265	326000	338893	326000	338893	337000	369502	328000	337000	369502	328000
	879896	915000	871976	878000	864570	853000	898680	853000	898680	876300	935410	882700	876300	935410	882700
TOTAL	4015038	4075495	3991687	3996000	3527395	3941600	4340082	4085300	4496217	4090500					

DIVERSIONS 1990

RES. DIV.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CVCMD(est)	22000	27000	37000	39000	36000	40000	40000	38000	31000	25000	22000
CVCMD(act)	20372	21790	31453	37721	44099	37026	40069	300000	270000	230000	160000
IID (est)	140000	160000	300000	330000	320000	300000	300000	300000	300000	300000	300000
IID (act)	148825	183699	279367	334344	352670	306424	349023	108000	120000	105000	74000
PVID (est)	29900	59000	81000	89000	97000	108000	120000	110858	116743	7900	10989
PVID (act)	30920	54950	74340	82830	101000	8800	7900	8800	10009	10009	10989
RD (est)	4400	5900	6700	9200	8700	8800	7900	8800	10009	10009	10989
RD (act)	4643	5448	8339	9324	10530	8800	7900	8800	10009	10009	10989

ALL PROJECTIONS AS OF JULY 31, 1990 UNLESS OTHERWISE NOTED

CONS. USE	THROUGH 7/31	PROJECTED	BY REGR	BY RULE CURVE METHOD
IID	1908801	3057791	3033414	3033414
COACH	227191	359511	369349	369349
PVID	43410	63698	62701	62701
TOTAL	2503206	3913519	449838	449838

JECTED EOY USE FOR CAL-AG USERS:
BY REGRESSION - 3913519
BY RULE CURVE - 3915302

AMOUNT OVER THE 3.85 MAF ENTITLEMENT 63519
AMOUNT OVER THE 3.85 MAF ENTITLEMENT 65302

HISTORICAL PERCENTAGES OF
ANNUAL CONSUMPTIVE USE
(85-89)

PVID 12.13 %

RES. DIV. 1.44 %

IID 77.11 %

CVWD 9.31 %

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

I.	PROJECTED CONSUMPTIVE USE (NET DIVERSIONS)	ACRE-FEET
A.	PVID (Exclusive of 3rd priority mesa lands) & Reservation Division	492,539
B.	IID	3,033,414
C.	PVID 3rd priority mesa lands**	20,000
D.	CVWD	<u>369,349</u>
E.	TOTAL 3RD PRIORITY	3,422,763
D.	CONSERVED WATER (MWD)	<u>6,110</u>
	TOTAL (A + E + D)	3,921,412
	LIMITATION	<u>3,850,000</u>
	REDUCTION REQUIRED	71,412

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

II. ALLOCATION OF REQUIRED REDUCTION

<u>A.</u>	<u>FIRST INCREMENT (FI)</u>	3,248
1.	R1 MWD	2,879
2.	R1 PVID	19
3.	R1 CVWD	350

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

II. ALLOCATION OF REQUIRED REDUCTION

<u>B.</u>	<u>SECOND INCREMENT</u>	(SI)	2,862
1.	R2 PVID		17
2.	R2 CVWD		2,845

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

II. ALLOCATION OF REQUIRED REDUCTION

C. THIRD INCREMENT (TI)

THE THIRD INCREMENT IS THE RESPONSIBILITY OF MWD. THE REDUCTION IS OF CONSERVED WATER IN THE AMOUNT NOT TO EXCEED THE AMOUNT THAT THE CONSERVED WATER IS GREATER THAN 106,110 ACRE FEET. SINCE CONSERVED WATER IS LESS THAN 106,110 ACRE FEET THE TI IS 0.

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

II. ALLOCATION OF REQUIRED REDUCTION

D. REMAINING REDUCTION (RR)

65302
~~65,032~~

RR IS APPLIED TO PRIORITIES 3a AND 3b OF
THE SEVEN PARTY AGREEMENT

	NET DIV	% OF
TOTAL		
3a. IID	3,033,414	
CVWD	<u>369,349</u>	
SUBTOTAL	3,402,763	99.4157
		64920
3b. PVID	<u>20,000</u>	0.5843
		382
TOTAL	3,422,763	

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)

APPROVAL AGREEMENT METHODOLOGY

II. ALLOCATION OF REQUIRED REDUCTION

E. TOTAL REDUCTIONS REQUIRED	71,412
1. MWD, R1	2,879
2. PVID, R1 + R2	36
3. CVWD, R1 + R2	3,195
4. 3a. PRIORITY	64,920
3b. PRIORITY	382

REDUCTION OF NET DIVERSIONS (CONSUMPTIVE USE)
APPROVAL AGREEMENT METHODOLOGY

ALLOCATION OF REQUIRED REDUCTION

FIRST INCREMENT (FI)

$$[50,000 \times (CW / 106,110)] / [(CW + IID) / (CW + TPr)]$$

$$[50,000 \times 6,110 / 106,110] \quad [(6,110+3,033,414)/(6,110+3,422,763)] \quad 3248$$

$$R1 \text{ MWD} = FI - [FI \times (PVID(m) + CVWD) / (CW + TPr)]$$
$$= 3,248 - [3,248 \times [(20,000+369,349) / (6,110+3,422,763)]] \quad 2,879$$

$$R1 \text{ PVID} = FI \times [PVID(m) / (CW + TPr)]$$
$$= 3,248 \times [20,000 / (6,110 + 3,422,763)] \quad 19$$

$$R1 \text{ CVWD} = FI \times [CVWD / (CW + TPr)]$$
$$= 3,248 \times [369,349 / (6,110 + 3,422,763)] \quad 376$$

SECOND INCREMENT (SI) = REQUIRED REDUCTION - FI

$$= 71412 - 3,248 = 68,164$$
$$\text{OR } (106,110 \times (6,110/106,110) - 3,248) \quad 2862$$

WHICH EVER IS LESS

$$R2 \text{ PVID} = SI \times [PVID(m) / (CW + TPr)]$$
$$= 2,862 \times [20,000 / (6,110 + 3,422,763)] \quad 17$$

$$R2 \text{ CVWD} = SI - R2 \text{ PVID}$$
$$= 2,862 - 17 = 2845$$

THIRD INCREMENT (TI)

THE RESPONSIBILITY OF MWD IN THE EVENT THAT CONSERVATION HAS EXCEEDED 106,110 ACRE FEET. SINCE CONSERVATION IS 6,110 ACRE FEET THE THIRD INCREMENT IS 0.

$$\text{REMAINING REDUCTION (RR)} = R - FI - SI - TI$$

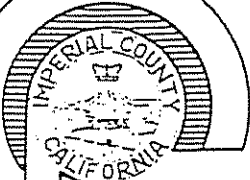
THE RESPONSIBILITY OF THE AG AGENCIES IN ACCORDANCE WITH THE VARIOUS CONTRACTS, DECREES AND REGULATIONS EXISTING AT THE TIME OF THE REDUCTION.

13-69

CIT Copied 7/19/95
Bd. Member
Land
Water
H&M

PLANNING DEPARTMENT

IMPERIAL COUNTY



PLANNING / BUILDING INSPECTION / PLANNING COMMISSION A.L.U.C. / L.A.F.Co.

Jurg Heuberger - Director

TO: BOARD OF SUPERVISORS DATE: 12-19-95

FROM: Jurg Heuberger, AICP, Planning Director M/O _____

SUBJECT: Colorado River Water Allocations

Dear Board Members.

Passed 50
12/19/95

REQUESTED ACTION:

The Planning/Building Department on request from Supervisor Sharp, requests that the Board of Supervisors consider adopting the attached resolution to urge the Colorado River Board, and the Bureau of Reclamation to issue "contracts" for the small water users along the Colorado River within Imperial County.

BACKGROUND:

For over seven (7) years now the Bureau of Reclamation and the Colorado River Board have indicated that they are preparing, or are prepared to issue water allocation contracts along the River on a priority basis for present users receiving permits first, secondary or new users receiving their permits second. To date, no contracts have been issued in this County. The County of Imperial under request from the Colorado River Board even entertained the concept of becoming the contracting agent on behalf of the Colorado River Board in order to expedite this. Those negotiations resulted in an impasse in mid 1994, after the Bureau determined that the County would have to pay all costs up front and then collect it's funds from the various users.

Handwritten signature

A RESOLUTION TO COLORADO
RIVER BOARD AND BUREAU
OF RECLAMATION TO ISSUE
WATER ALLOCATION CONTRACTS
ON THE COLORADO RIVER

WHEREAS, the Imperial County Board of Supervisors is delegated responsibility for all land use decisions within the unincorporated areas of Imperial County, including those lands adjoining the Colorado River; and,

WHEREAS, a number of individual parcels containing both temporary and permanent residential structures are located along the Colorado River and are in need of water availability; and,

WHEREAS, there are a number of new projects located along the Colorado River predominantly in the Palo Verde area that have either just been approved or are in the process of being reviewed; and,

WHEREAS, the Bureau of Reclamation and the Colorado River Board have both indicated for at least seven (7) years that water allocation contracts would be available within a matter of months; and,

WHEREAS, the Bureau of Reclamation and the Colorado River Board entertained negotiations to have the County of Imperial become the contracting agent on behalf of the Bureau and the Colorado River Board; and,

WHEREAS, the County of Imperial was willing to administer the water allocation contracts and was near agreement with the Colorado River Board and the Bureau of Reclamation which could have resolved this dilemma; and,

WHEREAS, the Bureau of Reclamation and the Colorado River Board have had sufficient time to develop and implement the water allocation program; and,

WHEREAS, it is extremely unfair and unconscionable to have people owning property along the river be placed in this "Catch 22" situation by the Federal and State Government; and,

WHEREAS, the County of Imperial is interested in pursuing a remedy that is mutually acceptable yet beneficial to the County of Imperial;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors requests immediate action by the Bureau of Reclamation and the Colorado River Board to commence the issuance of water allocation contracts for portions of the Colorado River fronting on territory within the County of Imperial and to do so without further delay or inconvenience to the public or the County; and,

BE IT FURTHER RESOLVED, that the County Board of Supervisors is still prepared to assist the Colorado River Board and the Bureau of Reclamation by having the Imperial County Planning/Building Department become the contracting Administrator on behalf of the Federal and State agencies, if it is in their mutual best interest and serves to expedite the contracting process.

PASSED AND ADOPTED AT A REGULAR MEETING OF THE BOARD OF SUPERVISORS BY AFFIRMATIVE ROLL CALL VOTE ON THIS _____ DAY OF _____, 1995

BRAD LUCKEY, CHAIRMAN
IMPERIAL COUNTY BOARD OF SUPERVISORS

ATTEST:

LINDA WEAVER
CLERK OF THE BOARD

It should be noted, that the Bureau has issued at least one (1) allocation contract, to the City of Needles. Recognize that Needles then also became the contracting agent for the Colorado River Board in San Bernardino County. In any event, we have a number of Subdivisions in the Palo Verde area which depend on groundwater as their sole source, and which to date have been unable to obtain water allocation contracts. We also have a number of new Subdivisions that are in this catch twenty-two situation and a resolution to this contracting dilemma needs to be forthcoming immediately.

If you have any questions, please let me know.

cc: IID
Joanne L. Yeager, Assistant County Counsel
S. Harry Orfanos, Director Public Works
John L. Morrison, Assistant Planning Director
FILE 10.105 AND BRD FILE

JH/sjs/brd/COLRVRL.BRD

1370

COLORADO RIVER BOARD OF CALIFORNIA

770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1035
(818) 543-4676
(818) 543-4685 FAX



July 28, 1997

7-30-97

cc Director
WD
LE
EA

Robert W. Johnson
Regional Director
Lower Colorado Regional Office
U.S. Bureau of Reclamation
P.O. Box 61470
Boulder City, Nevada 89006-1470

Dear Mr. Johnson:

I am writing to express California's serious concern with regards to the U.S. Geological Survey's (USGS) intention to eliminate future monitoring of various stream gaging stations on the Colorado River. The result of this action can have grave consequences to California. If specific stations on the attached list are indeed discontinued, return flow credits totaling approximately 735,000 acre-feet per year available to the three states in the Lower Basin of the Colorado River would no longer be verifiable. California could conceivably lose about 520,000 acre-feet of water per year, Arizona about 80,000 acre-feet per year, and Nevada approximately 135,000 acre-feet per year. These stations simply cannot be shut down without a plan in place to continue the verification of these return flows. There are also a number of gaging stations on the list which, while not directly affecting the determination of consumptive use of Colorado River water in the Lower Basin, do have long histories of water quantity and water quality data which must not be terminated if we are to keep an eye on salinity problems.

Attachment 1 is a four page document distributed by USGS staff at the May 19-20, 1997 meetings of the Colorado River Basin Salinity Control Forum and Work Group. The last two pages of the document identify those stations that are to be discontinued in this fiscal year, 1997, and proposed to be discontinued next fiscal year, 1998. In addition, another 24 stations, which were not named but proposed to be discontinued in fiscal year 1998, were indicated to be operated by the U.S. Bureau of Reclamation (Reclamation) with quality assurance/quality control services provided by USGS. Attachment 2 is a complete list of the 33 stations within the USGS Arizona District proposed to be discontinued in 1998 which was obtained from the USGS office in Yuma, Arizona. USGS staff has indicated that proposed discontinuance of these stations is a result of reductions in funding for the operation of gaging stations and the collection and reporting of data therefrom.

gm

1997

✓

7/30/97

The Lower Basin flow stations listed for termination would eliminate the measured verification of surface returns from the Palo Verde Irrigation District and the Yuma Project, Reservation Division, in California, as well as leakage from the All-American Canal which surfaces before reentering the River. In Arizona, verification of surface returns in the Yuma area except for the Wellton-Mohawk Irrigation and Drainage District, and those from the Valley Division of the Yuma Project would be eliminated. In Nevada, almost all of Nevada's surface return flows would no longer be measured.

Concerning return flow measurement, Reclamation has been charged with the responsibility of fulfilling the United States' obligation under Article V of the Decree of the Supreme Court of the United States in Arizona v. California Dated March 9, 1964 (373 U.S. 546). This Article V reads as follows:

"V. The United States shall prepare and maintain, or provide for the preparation and maintenance of, and shall make available, annually and at such shorter intervals as the Secretary of the Interior shall deem necessary or advisable, for inspection by interested persons at all reasonable times and at a reasonable place or places, complete, detailed and accurate records of:

"(A) Releases of water through regulatory structures controlled by the United States;

"(B) Diversions of water from the mainstream, return flow of such water to the stream as is available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation, and consumptive use of such water. These quantities shall be stated separately as to each diverter from the mainstream, each point of diversion, and each of the States of Arizona, California and Nevada;

"(C) Releases of mainstream water pursuant to orders therefore but not diverted by the party ordering the same, and the quantity of such water delivered to Mexico in satisfaction of the Mexican Treaty or diverted by others in satisfaction of rights decreed herein. These quantities shall be stated separately as to each diverter from the mainstream, each point of diversion, and each of the States of Arizona, California and Nevada;

"(D) Deliveries to Mexico of water in satisfaction of the obligations of Part III of the Treaty of February 3, 1944, and, separately stated, water passing to Mexico in excess of treaty requirements;

"(E) Diversions of water from the mainstream of the Gila and San Francisco Rivers and the consumptive use of such water, for the benefit of the Gila National Forest."

In fulfillment of the United States' obligation under Article V, Reclamation has published annually its report entitled "Compilation of Records in Accordance With Article V of the Decree of the Supreme Court of the United States in Arizona v. California Dated March 9, 1964" (Decree Record).¹ We request a response from Reclamation which defines its plans for fulfilling the United States' obligation should funding for operation of these stations be discontinued. We believe the statement contained in the first line of Article V from the Decree, which reads:

"The United States shall prepare and maintain, or provide for the preparation and maintenance of ... detailed and accurate records..."

obligates the United States to fund the costs associated with the preparation and maintenance of the Decree Record. Thus, if it is determined that these gaging stations are necessary to prepare and maintain complete, detailed and accurate records as required by Article V, then Reclamation must secure sufficient federal funding to compensate for reductions in the USGS budget for the collection and reporting of these flow records. We firmly believe these stations are required for preparation of the data as required by Article V.

Concerning quantity and/or quality gaging stations, three of the twenty stations which appear in Reclamation's "Quality of Water Colorado River Basin Progress Report No. 18" are also on the list for termination. Those three stations are:

Station No.	Station Name	Period of Record
09328500	San Rafael River near town of Green River	1945 to present
09415000	Virgin River at Littlefield, Arizona	1929 to present
09402500	Colorado River near Grand Canyon, Arizona	1922 to present

Operation of these stations must be continued. Salinity is a major concern of California's municipal and agricultural users. Over half a billion dollars, excluding monies spent on the Yuma desalter, has been spent in accord with

¹ This statement is made notwithstanding Reclamation's continuing yet unfinished effort in providing proper credit for unmeasured returns to the Colorado River

federal legislation to control salt loading in the Colorado River Basin. All twenty gaging stations are needed so as to identify changes in natural salt loading, to identify the most cost-effective future salinity control projects, and to monitor the effects of salinity control projects implemented to date.

Also, all of the stations listed for possible discontinuation play an important role in river management (some of these stations are used in the Colorado River System simulation model). Knowing how much water is flowing at points in the system avoids the wasteful over-delivery of water. This knowledge also permits modeling of the river to anticipate flooding conditions.

For reasons listed above, we implore you to act swiftly in securing federal funding to continue the operation of these gaging stations so as to avoid gaps in the vital information they provide. At a minimum, we request a response from Reclamation on how it plans to fulfill the United States' obligation under Article V of the Decree in light of the proposed elimination of gaging stations.

Sincerely,



Gerald R. Zimmerman
Executive Director

Attachments

cc: The Honorable Bruce Babbitt, Secretary of the Interior, Department of the Interior
Eluid L. Martinez, Commissioner, U.S. Bureau of Reclamation
Charles A. Calhoun, Regional Director, Upper Colorado Regional Office
U.S. Bureau of Reclamation
Gordon P. Eaton, Director, U.S. Geological Survey
Rita P. Pearson, Director, Arizona Department of Water Resources
George M. Caan, Director, Colorado River Commission of Nevada
Jack A. Barnett, Executive Director, Colorado River Basin Salinity Control Forum
Gerald M. Davisson, Manager, Palo Verde Irrigation District
Michael J. Clinton, General Manager, Imperial Irrigation District

BUDGET HISTORY -- APPROPRIATED FUNDING

(Dollars in Thousands)	FY1993	FY1994	FY1995	FY1996	FY1997	FY1998
Water Resources Division	182,397	187,561	185,916	190,924	192,506	194,407
Federal-State Cooperative	63,488	63,488	62,130	62,130	64,599	63,345
National Water Quality Assessment	38,260	51,822	58,071	63,119	63,352	72,352
Hydrologic Networks and Analysis	28,804	25,331	24,559	24,604	23,528	21,867

FY1996-97 reduction in HN&A - \$ 1,076,000 -- \$250,000 from field operations -- 44 streamflow stations.

FY1997-98 reduction in HN&A - \$ 1,661,000 -- \$750,000 from field operations -- 123 streamflow stations.

CBR Funding Priority for National Selection

- Priority 1. -- Long-term index stations that relate to climate.
- Priority 2. -- Specifically named in a compact or decree.
- Priority 3. -- Discharge from one of the Nation's 352 hydrologic accounting units.
- Priority 4. -- National Weather Service forecast point, or supports 4 functions.
- Priority 5. -- Supports 3 functions.
- Priority 6. -- Supports 2 functions.
- Priority 7. -- Supports 1 function.
- Priority 8. -- Supports 3 or more functions, but has a high probability of funding from an outside source.
- Priority 9. -- Supports 1 or two functions, but has a high probability of funding from an outside source.

Discontinued USGS Streamflow Gaging Stations in the Colorado River Basin
Federal Fiscal Year 1997

Wyoming

None

Colorado

09135900 - Leroux Creek at Hotchkiss

09165000 - Dolores River below Rico

09339900 - East Fork San Juan River above Sand Creek

New Mexico

None

Utah

None

(Water-quality sampling reduced at White River near Watson, San Rafael River
near Green River, and Dolores River near Cisco)

Nevada

09419753 - Las Vegas Wash near Henderson

Arizona

09526200 - Ypsilanti Canal #1 at Yuma

California

None

:

Discontinued USGS Streamflow Gaging Stations in the Colorado River Basin
Proposed for Federal Fiscal Year 1998

Wyoming (30 active stations in 1995)

None

Colorado (210 active stations in 1995)

09304000 - South Fork White River at Buford

09126000 - Cimarron River near Cimarron

(Water-quality sampling discontinued at Colorado River at Windy Gap and Eagle River at Gypsum)

New Mexico (31 active stations in 1995)

None

Utah (78 active stations in 1996)

09328500 - San Rafael River near town of Green River

Nevada (31 active stations in 1994)

09415000 - Virgin River at Littlefield

09418500 - Meadow Valley Wash near Caliente

Arizona (70 active stations in 1995 - Not including Gila River stations)

09402500 - Colorado River near Grand Canyon

09528600 - Laguna Canal Wasteway

09528800 - Levee Canal Wasteway

09529000 - North Gila Drain No. 1 near Yuma

09529150 - North Gila Main Canal Wasteway

09529200 - Bruce Church Drain near Yuma

09529250 - Bruce Church Wasteway

09529420 - South Gila Terminal Canal Wasteway

09530000 - Reservation Main Drain No. 4

Additional 24 sites where record is collected by BOR, QA/QC by USGS.

California

None

U.S. SUPREME COURT DECREE STATIONS

The following is list of stations that will be discontinued if there is a reduction in CBR funds for the Arizona District.

STATION NUMBER	NAME	RECORD TYPE
09402500	Colorado River nr Grand Canyon	Regular gage
09423650	Topock Marsh Outlet nr Topock	Furnished
09429130	PVID Olive Lake Drain	Furnished
09429155	PVID "F" Canal Spill	Furnished
09429160	PVID D-10-11-2 Spill	Furnished
09429170	PVID D-10-11-5 Spill	Furnished
09429180	PVID D-23 Spill	Furnished
09429190	PVID D-23-1 Spill	Furnished
09429200	PVID "C" Canal Spill	Furnished
09429210	PVID C-28 Upper Spill	Furnished
09429220	PVID Outfall Drain nr Palo Verde	Furnished
09429230	PVID C-28 Lower Spill	Furnished
09522000	Colorado River at NIB ab Morelos Dam	Furnished
09525000	Yuma Main Canal Wasteway nr Yuma	Combined
09528600	Laguna Canal Wasteway	Regular gage
09528800	Levee Canal Wasteway	Regular gage
09529000	North Gila Drain No. 1 nr Yuma	Regular gage
09529150	North Gila Main Canal Wasteway	Regular gage
09529160	South Gila Pump Outlet Channel No.3	Furnished
09529200	Bruce Church Drain nr Yuma	Regular gage
09529240	South Gila Pump Outlet Channel No. 2	Furnished
09529250	Bruce Church Wasteway	Regular gage
09529360	South Gila Pump Outlet Channel No. 1	Furnished
09529420	South Gila Terminal Canal Wasteway	Regular gage
09529440	South Gila Pump Outlet Channel No. 4	Furnished
09529600	Reservation Drain No. 7	Furnished
09529700	Reservation Main Drain No. 6	Furnished
09529800	Reservation Drain No 2	Furnished
09529900	Reservation Drain No. 3	Furnished
09530000	Reservation Main Drain No. 4	Regular gage
09530200	Yuma Mesa Outlet Drain	Furnished
09530400	Reservation Drain No. 11	Furnished
09530500	Drain 8-B nr Yuma	Furnished

1371

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

WD

TO General Manager

DATE September 25, 1990

COPIES TO

FROM Manager

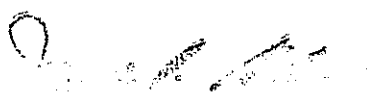
DEPARTMENT Water

AT Imperial

SUBJECT Drip Irrigation Study

At the meeting of August 7, 1990 the Board approved the expenditure of \$33,335 annually for five years to assist in the funding of a drip irrigation study by the USDA ARS at the Brawley Research Center.

Approval was also given for IID to become the lead agency for the study as requested by DWR who was one of the participants. Since then, the DWR has pulled out of the study because of budget cuts and it is not necessary for IID to be the lead agency. The involvement will now consist of the monetary contribution only.


JESSE P. SILVAJPS:clc
a:drip4.irr

13-72

IMPERIAL IRRIGATION DISTRICT
MEMORANDUM

SC

TO General Manager

DATE August 13, 1990

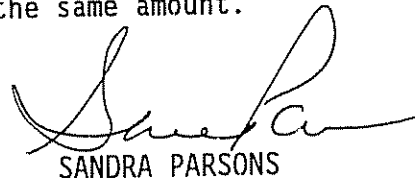
FROM Assistant
SecretaryCOPIES J.P. Silva
K.K. Fontaine

DEPARTMENT Executive

SUBJECT Drip Irrigation
Study

At their meeting of March 22, 1990, the Board of Directors authorized the expenditure of \$25,000 on an annual basis for five years in submitting a proposal to the Department of Water Resources (DWR) for a Drip Irrigation Study. DWR will not be able to participate to the degree requested, but can participate with \$25,000 per year. A shortfall of \$100,000 must be supplied by local agencies instead of the original \$50,000. The Imperial Valley Conservation Research Center Committee has committed to fund a third of that amount if IID and MWD will commit to a third of that amount, also.

At their meeting of August 7, 1990, the Board of Directors approved the sum of \$33,335 for a five year period for a Drip Irrigation Study contingent upon Metropolitan Water District providing the same amount.


SANDRA PARSONS

sp

14080790.MEM

13 73



United States
Department of
Agriculture

Agricultural
Research
Service

Pacific West Area

800 Buchanan Street
Albany, California
94710

December 18, 1990

Imperial Irrigation District
Attn: Mr. Charles Shreves
P. O. Box 937
Imperial, CA 92251

Gentlemen:

Attached is a letter which we have sent to Mr. Richard Kershaw of the Imperial Valley Conservation Research Committee transmitting the trust fund agreements to him for signature. As you will note, we have requested the agreements be forwarded to you for signature completion.

After all parties have signed the agreement, two copies should be returned to us. Please forward one copy to Mr. Kershaw and retain one copy for your file.

If you should have any questions regarding this matter, contact me at 415/559-6019.

Sincerely,

RITA ABEYTA
Contract Specialist

Enclosure

cc:

R. Kershaw, Imperial Valley Conservation Research Committee
M. van Genuchten, Riverside, CA
C. J. Phene, Fresno, CA
G. Greer, Riverside, CA
S. Guthrie, Fresno, CA

✓ ✓
12-20-90/pjg
cc WJ
B



United States
Department of
Agriculture

Agricultural
Research
Service

Pacific West Area

800 Buchanan Street
Albany, California
94710

December 18, 1990

Imperial Valley Conservation
Research Committee
Attn: Mr. Richard Kershaw
P. O. Box 1375
Brawley, CA 92227

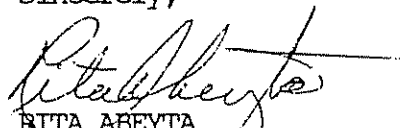
Gentlemen:

The agreement listed below is forwarded to you for processing and signature. After the agreements have been signed on behalf of your organization, please forward them on to Mr. Charles Shreves of the Imperial Irrigation District for signature completion.

Agreement No.:	58-5310-1-101
Title:	Evaluation of Water Management Requirements of Sub-surface Drip Irrigation for Reducing Drainage Water and Maximizing Water Use Efficiency in Imperial Valley, California
Principal Investigators:	Martinus Th. van Genuchten Claude J. Phene

If you should have any questions regarding this agreement, contact me at 415/559-6019.

Sincerely,


RITA ABEYTA
Contract Specialist

Enclosure

cc:

C. Shreves, Imperial Irrigation District
M. van Genuchten, Riverside, CA
C. J. Phene, Fresno, CA
G. Greer, Riverside, CA
S. Guthrie, Fresno, CA

UNITED STATES DEPARTMENT OF AGRICULTURE RESEARCH AGREEMENT		TYPE OF RESEARCH AGREEMENT TRUST FUND COOPERATIVE AGREEMENT	
AGENCY (Name and address) USDA, Agricultural Research Service Pacific West Area 800 Buchanan Street Albany, CA 94710		AGREEMENT NO. 58-5310-1-101	TYPE OF ACTION New
		PERIOD OF AGREEMENT December 15, 1990 thru December 14, 1995	
		FEDERAL OBLIGATION \$ N/A	CHANGE IN FEDERAL OBLIGATION <input type="checkbox"/> \$ N/A
PERFORMING ORGANIZATION (Name and address) Imperial Valley Conservation Research Committee P.O. Box 1375, Brawley, CA 92227 and Imperial Irrigation District P.O. Box 937, Imperial, CA 92251		CRIS NO. 5310-11130-006-03T 5302-13140-002-04T	AUTHORITY 7 USC 450a
		OBLIGATION DISTRIBUTION	
		Accounting Code 1935310101 1935302101	Amount \$ 53,400.00 43,200.00
PRINCIPAL INVESTIGATOR (Name and address) Richard Kershaw, President Imperial Valley Conservation Research Committee Charles Shreves, General Manager Imperial Irrigation District		FINANCE OFFICE (Complete mailing address) Budget and Fiscal Office Pacific West Area 800 Buchanan Street Albany, CA 94710	
TITLE OF PROJECT Evaluation of Water Management Requirements of Sub-surface Drip Irrigation for Reducing Drainage Water and Maximizing Water Use Efficiency in Imperial Valley, California		AUTHORIZED DEPARTMENTAL OFFICER'S DESIGNATED REPRESENTATIVE (Name and address) Martinus Th. van Genuchten U.S. Salinity Laboratory, Riverside, CA and Claude J. Phene Water Management Research Laboratory, Fresno, CA	

This Agreement includes the following:

BASIS FOR AWARD

- ☒ Statement of Work; or
☐ Project Summary; or
☐ Proposal; and
☐ General Provisions
 ☐ 7CFR 3015. Subpart U (by reference)
 ☐ FORM ARS-452
☐ Special Provisions
☐ Submit-
 ☐ Technical Reports, to: Authorized Departmental Officer's
 ☐ Fiscal Reports, to: Designated Representative
☒ Other (Specify) :

1. 7 CFR 3015.175(b), concerning Copyrights (by reference).
2. "Report of Invention and Subaward" requirements.
3. Authorized Departmental Officer's Designated Representative Instructions.

FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE

AUTHORIZED DEPARTMENTAL OFFICER	TYPED NAME	DATE
	JACK C. NELSON	

FOR THE PERFORMING ORGANIZATION

(Signature of person authorized by the governing body of the performing organization to incur contractual obligations)

SIGNATURE	TYPED NAME AND TITLE	DATE
SIGNATURE	TYPED NAME AND TITLE	DATE

ADVANCE COPY

THIS COOPERATIVE AGREEMENT is made and entered into by the Imperial Irrigation District and the Imperial Valley Conservation Research Committee, hereinafter referred to as the cooperators (IID and IVCRC), the Cooperators, and the United States Department of Agriculture, Agricultural Research Service, hereinafter referred to as ARS.

WHEREAS, the interest of ARS is to develop subsurface drip irrigation systems and related management to reduce the amount of applied water and drainage outflow; to modify and develop soil water and solute transport models and use the models to help develop long-term management practices for achieving agricultural sustainability and salt balance for the Imperial Valley, California.

WHEREAS, all parties have on going efforts in reducing drainage water and maximizing water use efficiency; and

WHEREAS, the cooperators are in a position and are willing to provide certain funds to ARS for a study on the feasibility and water management requirements of subsurface drip irrigation for purposes of reducing drainage water and maximizing water use efficiency; and

WHEREAS, it is the belief of the parties of this cooperative agreement that subsurface drip irrigation systems can be used to reduce the amount of water needed for irrigation and to help reduce and control drainage outflow and is of mutual benefit for the parties and the people of the United States; and

WHEREAS, the field test and soil-water and solute transport models will be cooperatively planned and evaluate between the parties; and

WHEREAS, the mutual interest of ARS and the Cooperators in this research study will be served by reduced drainage water and increased water use efficiency.

NOW, THEREFORE, for and in consideration of the covenants and agreements herein contained, and for other good and valuable considerations, the parties mutually agree as follows:

A. The Cooperators Agrees:

1. To share in the costs of this activity by contributing \$96,600; as well as equipment, labor, and services valued at \$33,400; upon execution of this Cooperative Agreement and such additional sums from time to time as may be mutually agreed upon for the development of cooperative work contemplated under this Cooperative Agreement. Additional contributions shall be made by amendment to this Cooperative Agreement. Funds contributed by the Cooperator will be deposited in the United States Treasury, through ARS, United States Department of Agriculture, and will be expended according to pertinent Department of Agriculture regulations.

2. To send checks to the Pacific West Area Budget and Fiscal Office whose address is found in the Finance Office block of the Form ARS-451 coversheet and cite Cooperative Agreement No. 58-5310-1-101 on the checks. Checks should be made payable to USDA, Agricultural Research Service.
3. To consult with representatives of ARS in planning the activity to be performed under this Cooperative Agreement.
4. Not to refer to ARS or the United States Department of Agriculture in any advertising or promotional literature.
5. Collaborate in the research conducted under this agreement.

B. ARS Agrees:

1. To consult with representatives of the Cooperator in planning the activity to be performed under this Cooperative Agreement.
2. To assign personnel, equipment, supplies, transportation, and facilities as needed to this study. Such equipment and facilities will remain the property of ARS.
3. To perform these portions of the study:
 - a. A field research project to evaluate and demonstrate that subsurface drip irrigation systems can reduce significantly the amount of applied water and help reduce and control drainage outflow.
 - b. Quantify the minimum crop-water requirement for alfalfa, cotton, and possibly other selected annual crops without yield reduction.
 - c. Will test, modify or develop soil water and solute transport models to evaluate long-term effects of subsurface drip irrigation on agricultural sustainability and salt balance for the Imperial Valley, California.
 - d. Establish an appropriate study site on the Irrigated Desert Research Station in the Imperial Valley, on representative saline clay loam to silty clay loam soil underlain by a perched shallow (<3 m) saline water table (EC about 10 da/m.). The experimental field will be drained and of about 8 acres in size. The subsurface drip irrigated fields will be installed and operated as specified by Water Management Research Laboratory staff.

- e. Irrigation scheduling will be based on lysimeter or CIMIS data, applicable crop coefficients (Kc) for the current crop and its stage of development, and soil water content or matric potential feedback data from field measurements to insure that the crops's water demands are met for economic crop production. The irrigation will be automated with computer access to the station and Fresno via modem.
 - f. The measurements will include: automated Et measurement, estimation of crop Et, water balance, drainage, determination of chemical constituents in the irrigation water and subsurface water, plant growth and yield.
- 4. To consult with representative of the Cooperator on evaluation of progress reports prepared by ARS and by the Cooperator.
 - 5. To provide a final report of all results upon completion of the study.

C. It is Mutually Understood and Agreed:

- 1. The work conducted by ARS under the Cooperative Agreement shall be carried out according to plans mutually agreed upon and acceptable to both parties.
- 2. That funds contributed by the Cooperator remaining unobligated at the conclusion of any fiscal year may be utilized during any ensuing fiscal year in a continuation of the project herein described.
- 3. That funds contributed by Cooperator remaining unobligated at the conclusion of this study or upon termination or expiration of this Cooperative Agreement shall be returned by ARS to the Cooperator.
- 4. Equipment and supplies purchased with funds contributed by the Cooperator shall become and remain the property of ARS.
- 5. Data which are collected, compiled, and evaluated under this Cooperative Agreement shall be shared and mutually interchanged by the Cooperator and ARS. ARS has the right to publish in the scientific literature the results of this research. ARS will make available to the Cooperator manuscript copies of any resulting publications for review and comments. In case of disagreement, ARS has the right to publish giving due acknowledge of this cooperation. Requests for confidentiality will be entertained by ARS and any confidentiality granted shall be of one (1) year duration. An additional year of confidentiality may be granted by ARS based upon adequate justification by the Cooperator.

6. The final results of this undertaking will be made available to both parties.
7. All rights, title and interests in an invention made under this Cooperative Agreement solely by an employee of ARS shall be owned by ARS. Any invention made jointly under this Cooperative Agreement by at least one employee of ARS and at least one employee of the Cooperator shall be jointly owned. Any invention made under this Cooperative Agreement solely by an individual employed by the Cooperator shall be owned by the Cooperator, provided ARS is granted a royalty free, nonexclusive, irrevocable license to practice the invention for U.S. Government purposes. See Schedule 1.
8. Any public information released concerning work carried out under this Cooperative Agreement will describe the contributions of both parties to the research effort.
9. The continuance of the Cooperative Agreement is subject to passage by the Congress of the United States of America an appropriation of funds from which expenditures may legally be made to cover ARS' contribution to the research and continued contributions of funds by the Cooperator.
10. This Cooperative Agreement may be amended by mutual agreement of the parties at any time, and may be terminated by either party upon 90 calendar days' notice in writing to the other party. However, for compelling reasons, e.g., national emergency, protection of the public health, etc., ARS may immediately terminate this Cooperative Agreement.
11. Copies of correspondence between the Cooperator and the Authorized Departmental Officer's Designated Representative shall be sent to the Authorized Departmental Officer, citing Cooperative Agreement No. 58-5310-1-101 thereon. The Authorized Departmental Officer's address is:

Jack C. Nelson
USDA, Agricultural Research Service
Pacific West Area
800 Buchanan Street
Albany, CA 94710
12. The Authorized Departmental Officer's Designated Representative's Instructions are attached hereto and each party acknowledges the scope and limitations of his or her duties and responsibilities. See Schedule 2.

REPORT OF INVENTIONS AND SUBAWARDS

A. General

1. Cooperators shall submit interim and final invention reports and promptly give notification of the award of subawards containing a "Patent Rights" clause. Plain sheets of paper may be used to make these reports.
2. An interim report is due at least every 12 months from date of award and every 12 months thereafter.
3. A final report is due within 6 months of termination if the Performing Organization is a small business firm or a domestic nonprofit organization and within 3 months for all others.

B. Interim and Final Reports Must Contain:

1. Name of Performing Organization.
2. Research Agreement number.
3. Research Agreement award date.
4. Type of Report identification (Interim or Final).
5. Reporting period.
6. Report of Inventions and Subawards content.

B. Interim and Final Reports Contain:

6. A listing of all inventions made.
 - a. The name of inventor(s).
 - b. The title of inventions(s).
 - c. The disclosure number, patent application number, or patent number.
 - d. Has election been made to file patent applications in the United States or foreign countries?
 - e. Have confirmation instruments assignments been forwarded to ARS?

7. Certification of compliance with required invention identification and disclosure procedures and certification of reporting all inventions.
8. Any required information not previously reported on subawards containing a "Patent Rights" clause awarded during the course of the Research Agreement.

C. Subaward Reports Contain:

1. Name of Performing Organization.
2. Research Agreement number.
3. Research Agreement award date.
4. Type of Report Identification (Interim or Final).
5. Report period.
6. Name of subawardee or subawardees.
7. Complete address of subawardee(s).
8. Subaward identification number(s).
9. The "Patent Rights" clause incorporated, including year and date of clause.
10. Description of work performed under subaward(s).
11. Date of subaward(s).
12. Estimated completion date(s).

D. Negative reports are required.

E. Department of Defense Form 882, Report of Inventions and Subcontracts, may be used in lieu of the above narrative report.

INSTRUCTIONS BY THE
AUTHORIZED DEPARTMENTAL OFFICER (ADO) TO THE AUTHORIZED DEPARTMENTAL
OFFICER'S DESIGNATED REPRESENTATIVE (ADODR)
FOR A
TRUST FUND, REIMBURSABLE, AND COOPERATIVE
RESEARCH AND DEVELOPMENT AGREEMENT

A. The ADODR will:

1. Represent the ADO in the administration and supervision of this Cooperative Agreement. Actions reserved to the ADO are set forth in B. below.
2. Immediately upon receipt of the Cooperative Agreement become thoroughly familiar with and faithfully administer the terms and conditions of the Cooperative Agreement including any Special Provisions and attached documents related thereto.
3. Ensure contributions to this effort by your management unit will not influence your administrative actions as ADODR. PD should give us more definitive guidelines on how to avoid conflicts of interest during performance.
4. Ensure the Cooperative Agreement will not be used to avoid, and subvert, any recognized procurement, property, fiscal, and personnel policies and procedures.
5. Prior to release, coordinate any correspondence you originate with the ADO if its importance warrants such coordination. As a general rule, any correspondence involving the terms and conditions, performance, or funding of the Cooperative Agreement should be coordinated with the ADO.
6. Receive progress or technical reports and forward a copy of same along with a recommendation for approval or disapproval to the ADO at the intervals agreed upon in the Cooperative Agreement.
7. Receive reports of inventions made under the Cooperative Agreement and forward the reports to the ADO.
8. Routinely monitor and evaluate performance to ensure that the Cooperative Agreement is progressing satisfactorily and that appropriate funds and time are allocated to complete the project.
9. Establish and maintain an administrative file of all documents related to the implementation and administration of the Agreement. Upon completion of the Agreement, forward that file to the ADO.

10. Ensure that two copies of any publication generated under the Cooperative Agreement including the Final Report are sent to the National Agricultural Library, Acquisitions and Serials Branch, Beltsville, Maryland 20705 and one copy of the Final Report and, as appropriate, publications are sent to the ADO. Notify the ADO by copy of the letter of transmittal that copies of the Final Report have been sent to the Library.
11. Receive notices from Cooperator regarding actual or potential labor disputes which would affect the performance under the Agreement and immediately forward such notices to the ADO with comments regarding the impact of the dispute on the Cooperative Agreement.
12. Advise the ADO of any discriminatory acts observed or suggested by a party to the Cooperative Agreement.

NOTE: Discrimination on the basis of race, religion, color, sex, national origin, age, or physical disability is prohibited.
13. Promptly refer to the ADO any matter arising that is outside your authority to resolve events or situations which may endanger performance of the Cooperative Agreement.
14. Questions regarding the responsibilities and duties of the ADODR or interpretation of any of the terms and conditions of the Agreement are referred to the ADO.

B. Responsibilities Reserved to the ADO:

1. Changes, including additions, deletions and/or extensions to or termination of work to be performed under the Cooperative Agreement by either party.
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3. Forwarding reports on inventions to the OCI, Patent Coordinator.

13 74



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

August 12, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Eason
Contract Specialist
Pacific West Area
Agricultural Research Service
U.S. Department of Agriculture
800 Buchanan Street
Albany, California 94710

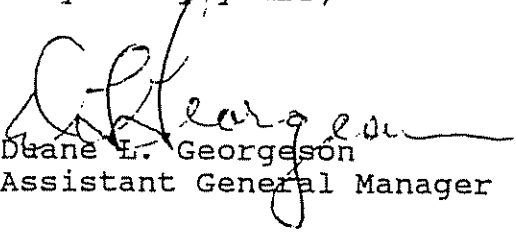
Dear Mr. Eason:

Transmittal of Amendment No. 1 to Agreement
No. 58-5310-1-101, Evaluation of Water Management
Requirements of Subsurface Drip Irrigation Systems

Transmitted herewith are four executed duplicate originals of Amendment No. 1 to Agreement No. 58-5310-1-101, "Evaluation of Water Management Requirements of Sub-surface Drip Irrigation for Reducing Drainage Water and Maximizing Water Use Efficiency in Imperial Valley, California." The four originals have been executed by the Imperial Valley Conservation Research Committee, Imperial Irrigation District, and Metropolitan. After the four originals of the amended Agreement have been signed on behalf of your organization, please forward one fully executed original to Mr. Jan Matusak of my staff.

If you have any questions regarding the Agreement or the project, please contact Mr. Fadi Kamand of my staff at (213) 250-6735.

Very truly yours,


Duane E. Georgeson
Assistant General Manager

Enclosures (4)

FZK:gn

 cc WD

The Metropolitan Water District of Southern California

Mr. Ken Eason

-2-

August 12, 1991

cc w/o enclosures:

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
Post Office Box 937
Imperial, California 92251

Mr. Richard Kershaw
President
Imperial Valley Conservation
Research Center Committee
P.O. Box 1375
Brawley, California 92227



IMPERIAL IRRIGATION DISTRICT

OPERATING HEADQUARTERS • P O BOX 937 • IMPERIAL CALIFORNIA 92251

(619) 339-9477

FAX (619) 339-8392
GENERAL RECORDS

065610 JUL 23 91

TO J. Matusak

GM

July 19, 1991

Mr. Jan Matusak
Metropolitan Water District
P. O. Box 54153
Los Angeles, CA 90054

Dear Mr. Matusak:

Subject: Agreement to Develop Subsurface Drip
Irrigation Systems to Reduce Drainage
Water and Increase Water Use

In accordance with the USDA, Agricultural Research Service (ARS), letter of July 10, 1991, enclosed are four copies of Agreement No. 58-5310-1-101, Amendment No. 1, which are to be signed by MWD and then mailed to ARS. These copies replace the one sent to you on June 24, 1991; there are no changes in the agreement just the number of copies transmitted.

Yours truly,

Gloria A. Rivera
for CHARLES L. SHREVES
General Manager

Encs.
gar
USDA-ARS
cc John R. Kershaw, IVCRC
Jesse Silva, IID

UNITED STATES DEPARTMENT OF AGRICULTURE

RESEARCH AGREEMENT

TYPE OF RESEARCH AGREEMENT

TRUST FUND COOPERATIVE AGREEMENT

AGENCY (Name and address)

AGRICULTURAL RESEARCH SERVICE
PACIFIC WEST AREA
800 BUCHANAN STREET
ALBANY, CA 94710

AGREEMENT NO.

58-5310-1-101

TYPE OF ACTION

Amendment No. One

PERIOD OF AGREEMENT

December 15, 1990

thru December 14, 1995

FEDERAL OBLIGATION

S N/A

CHANGE IN FEDERAL OBLIGATION

☐ S N/A

CRIS NO.

5310-11130-006-03T
5302-13140-002-04T

AUTHORITY

7 USC 450a

PERFORMING ORGANIZATION (Name and address)

Imperial Valley Conser. Research Center Comm.
P.O. Box 1375, Brawley, CA 92227 and
Imperial Irrigation District
P.O. Box 937, Imperial, CA 92251 and
The Metropolitan Water Dist. of Southern Calif
P.O. Box 54153, Los Angeles, CA 90054

PRINCIPAL INVESTIGATOR (Name and address)

John R. Kershaw, President
Imperial Valley Conser. Research Center Comm.
Charles Shreves, General Manager
Imperial Irrigation District
Jan Matusak, Principal Engineer
The Metropolitan Water Dist. of Southern Calif

OBLIGATION DISTRIBUTION

Accounting Code	Amount
1935310101	53,400.
1935302101	43,200.

FINANCE OFFICE (Complete mailing address)

USDA, AGRICULTURAL RESEARCH SERVICE
BUDGET AND FISCAL OFFICE
800 BUCHANAN STREET
ALBANY, CA 94710

AUTHORIZED DEPARTMENTAL OFFICER'S DESIGNATED REPRESENTATIVE (Name and address)

Martinus Th. van Genuchten
U.S. Salinity Laboratory, Riverside, CA and
Claude J. Phene
Water Management Research Laboratory, Fresno, C

Evaluation of Water Management Requirements
of Sub-surface Drip Irrigation for Reducing
Drainage Water and Maximizing Water Use
Efficiency in Imperial Valley, California

This Agreement includes the following:

BASIS FOR AWARD

- ☒ Statement of Work; or
☐ Project Summary; or
☐ Proposal; and
☐ General Provisions
☐ 7CFR 3015, Subpart U (by reference)
☐ FORM ARS-452

☐ Special Provisions☐ Submit-☐ Technical Reports,☐ Fiscal Reports,to: Authorized Departmental Officer's
Designated Representative☒ Other (Specify):

1. 7 CFR 3015.175(b), concerning Copyrights (By reference).
2. "Report of Invention and Subaward" requirements.
3. Authorized Departmental Officer's Designated Representative's Instructions.

FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE

AUTHORIZED DEPARTMENTAL OFFICER

TYPED NAME

DATE

JACK C. NELSON

FOR THE PERFORMING ORGANIZATION

(Signature of person authorized by the governing body of the performing organization to incur contractual obligations)

SIGNATURE

TYPED NAME AND TITLE

DATE

SIGNATURE

TYPED NAME AND TITLE

DATE

THIS COOPERATIVE AGREEMENT is made and entered into by the Imperial Valley Conservation Research Center Committee, Imperial Irrigation District and the Metropolitan Water District of Southern California, hereinafter referred to as the Cooperators (IVCROC, IID, and MWD), and the United States Department of Agriculture, Agricultural Research Service, hereinafter referred to as ARS.

WHEREAS, other entitles may have similar interests in water conservation through subsurface irrigation, the Cooperators are authorized to cooperate with other state, local, or national organizations or agencies whether voluntary or created by the law of any political division thereof, and to enter into contracts and agreements with them to participate in this project by amendment of this agreement; and

WHEREAS, the interest of ARS is to develop subsurface drip irrigation systems and related management to reduce the amount of applied water and drainage outflow; to modify and develop soil water and solute transport models and use the models to help develop long-term management practices for achieving agricultural sustainability and salt balance for the Imperial Valley, California; and

WHEREAS, all parties have on going efforts in reducing drainage water and maximizing water use efficiency; and

WHEREAS, the Cooperators are in a position and are willing to provide certain funds to ARS for a study on the feasibility and water management requirements of subsurface drip irrigation for purposes of reducing drainage water and maximizing water use efficiency; and

WHEREAS, it is the belief of the parties of this Cooperative Agreement that subsurface drip irrigation systems can be used to reduce the amount of water needed for irrigation and to help reduce and control drainage outflow and is of mutual benefit for the parties and the people of the United States; and

WHEREAS, the field test and soil-water and solute transport models will be cooperatively planned and evaluate between the parties; and

WHEREAS, the mutual interest of APS and the Cooperators in this research study will be served by reduced drainage water and increased water use efficiency.

NOW, THEREFORE, for and in consideration of the covenants and agreements herein contained, and for other good and valuable considerations, the parties mutually agree as follows:

A. The Cooperators Agree:

1. To share in the costs of this activity by contributing \$96,600 (\$95,600 from IVCROC and \$1,000 from MWD) annually for a period of five years; as well as equipment, labor, and services valued at \$33,400 annually for a period of five years from IID; upon execution of this Cooperative Agreement and such additional funds from time to time as may be mutually agreed upon for the development of cooperative work contemplated under this Cooperative Agreement. Funds contributed by the Cooperators will be deposited in the United States Treasury, through ARS, and will be expended according to pertinent Department of Agriculture regulations.
2. To send checks within 30 days of receipt of billing to the Pacific West Area Budget and Fiscal Office whose address is found in the Finance Office block of the Form ARS-451 coversheet and cite Cooperative Agreement Number 58-5310-1-101 on the checks. Checks should be made payable to USDA, Agricultural Research Service.
3. To consult with representatives of ARS in planning the activity to be performed under this Cooperative Agreement.
4. Not to refer to ARS or the United States Department of Agriculture in any advertising or promotional literature.
5. Collaborate in the research conducted under this agreement.

B. ARS Agrees:

1. To consult with representatives of the Cooperators in planning the activity to be performed under this Cooperative Agreement.
2. To assign personnel, equipment, supplies, transportation, and facilities as needed to this study. Such equipment and facilities will remain the property of ARS.
3. To perform these portions of the study:
 - a. A field research project to evaluate and demonstrate that subsurface drip irrigation systems can reduce significantly the amount of applied water and help reduce and control drainage outflow.
 - b. Quantify the minimum crop-water requirement for alfalfa, cotton, and possibly other selected annual crops without yield reduction.

- c. Will test, modify or develop soil water and solute transport models to evaluate long-term effects of subsurface drip irrigation on agricultural sustainability and salt balance for the Imperial Valley, California.
 - d. Establish an appropriate study site on the Irrigated Desert Research Station in the Imperial Valley, on representative saline clay loam to silty clay loam soil underlain by a perched shallow (<3 m) saline water table (EC about 10 da/m.). The experimental field will be drained and of about 8 acres in size. The subsurface drip irrigated fields will be installed and operated as specified by Water Management Research Laboratory staff.
 - e. Irrigation scheduling will be based on lysimeter or CIMIS data, applicable crop coefficients (kc) for the current crop and its stage of development, and soil water content or matric potential feedback data from field measurements to insure that the crops's water demands are met for economic crop production. The irrigation will be automated with computer access to the station and Fresno via modem.
 - f. The measurements will include: automated Et measurement, estimation of crop Et, water balance, drainage, determination of chemical constituents in the irrigation water and subsurface water, plant growth and yield.
- 4. To consult with representative of the Cooperators on evaluation of progress reports prepared by ARS and by the Cooperator.
 - 5. To provide a final report of all results upon completion of the study.
 - 6. Assessment of ARS program support costs is hereby waived.
- C. It is Mutually Understood and Agreed:
- 1. The work conducted by ARS under the Cooperative Agreement shall be carried out according to plans mutually agreed upon and acceptable to both parties.
 - 2. That funds contributed by the Cooperators remaining unobligated at the conclusion of any fiscal year may be utilized during any ensuing fiscal year in a continuation of the project herein described.

3. The funds contributed by Cooperators remaining unobligated at the conclusion of this study or upon termination or expiration of this Cooperative Agreement shall be returned by ARS to the Cooperator in the same proportion in which they were contributed.
4. All nonexpendable equipment purchased by any Cooperator and contributed to this Agreement is and shall remain the property of the purchasing party. However, nonexpendable equipment placed upon or in ARS property by the Cooperator must have ARS' prior approval and be clearly marked as the Cooperator's property. Said property shall be maintained at the Cooperator's expense, absent a clear prior commitment from ARS to maintain the equipment. All property of the Cooperator placed upon or in ARS property must be promptly removed by the Cooperator at the Cooperator's expense upon termination or completion of this Agreement unless specifically permitted to remain by separate agreement.
5. Data which are collected, compiled, and evaluated under this Cooperative Agreement shall be shared and mutually interchanged by the Cooperators and ARS. ARS has the right to publish in the scientific literature the results of this research. ARS will make available to the Cooperators manuscript copies of any resulting publications for review and comments. In case of disagreement, ARS has the right to publish giving due acknowledge of this cooperation. Requests for confidentiality will be entertained by ARS and any confidentiality granted shall be of one (1) year duration. An additional year of confidentiality may be granted by ARS based upon adequate justification by the Cooperators.
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8. Any public information released concerning work carried out under this Cooperative Agreement will describe the contributions of both parties to the research effort.

9. The continuance of the Cooperative Agreement is subject to passage by the Congress of the United States of America an appropriation of funds from which expenditures may legally be made to cover ARS' contribution to the research and continued contributions of funds by the Cooperators.
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Jack C. Nelson
USDA, Agricultural Research Service
Pacific West Area
800 Buchanan Street
Albany, CA 94710

12. The Authorized Departmental Officer's Designated Representative's Instructions are attached hereto and each party acknowledges the scope and limitations of his or her duties and responsibilities.
See Schedule 2.
13. Accounts and records of work items financed with funds received from the Cooperators shall be available for inspection, audit, and reproduction by the parties upon written request.
14. Copies of any correspondence between any ARS representative and that of IID shall be sent to IID representative Mr. Charles Shreves, General Manager at the following address:

Mr. Charles Shreves, General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, California 92251

Except as amended herein, Agreement Number 58-53101-1-101 shall remain the same and in full force and effect.

IN WITNESS WHEREOF, ARS, IVCRCC, IID and MWD have caused this First Amendment to Agreement Number 58-53101-1-101 to be dully executed the day and year first herein above written.

United States Department of Agriculture, Agricultural Research Service

By: _____

Title: _____

Imperial Valley Conservation Research Center Committee

By: John R. Kershaw

Title: President

Imperial Irrigation District

By: Charles L. Hume

Title: General Manager

Metropolitan Water District of Southern California

By: Carl Boronkey

Title: _____

Approved as to form
By Janet D. Dey
SR Deputy General Counsel
FOR GENERAL
COUNSEL

REPORT OF INVENTIONS AND SUBAWARDS

A. General

1. Cooperators shall submit interim and final invention reports and promptly give notification of the award of subawards containing a "Patent Rights" clause. Plain sheets of paper may be used to make these reports.
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2. Research Agreement number.
3. Research Agreement award date.
4. Type of Report identification (Interim or Final).
5. Reporting period.
6. Report of Inventions and Subawards content.

B. Interim and Final Reports Contain:

6. A listing of all inventions made.
 - a. The name of inventor(s).
 - b. The title of inventions(s).
 - c. The disclosure number, patent application number, or patent number.
 - d. Has election been made to file patent applications in the United States or foreign countries?
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7. Certification of compliance with required invention identification and disclosure procedures and certification of reporting all inventions.
8. Any required information not previously reported on subawards containing a "Patent Rights" clause awarded during the course of the Research Agreement.

C. Subaward Reports Contain:

1. Name of Performing Organization.
2. Research Agreement number.
3. Research Agreement award date.
4. Type of Report Identification (Interim or Final).
5. Report period.
6. Name of subawardee or subawardees.
7. Complete address of subawardee(s).
8. Subaward identification number(s).
9. The "Patent Rights" clause incorporated, including year and date of clause.
10. Description of work performed under subaward(s).
11. Date of subaward(s).
12. Estimated completion date(s).

D. Negative reports are required.

E. Department of Defense Form 882, Report of Inventions and Subcontracts, may be used in lieu of the above narrative report.

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AUTHORIZED DEPARTMENTAL OFFICER (ADO) TO THE AUTHORIZED DEPARTMENTAL
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FOR A
TRUST FUND, REIMBURSABLE, AND COOPERATIVE
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4. Ensure the Cooperative Agreement will not be used to avoid, and subvert, any recognized procurement, property, fiscal, and personnel policies and procedures.
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